COMPLIANCE WITH THIS PUBLICATION IS MANDATORY

This instruction implements AFPD 21-1, *Managing Aerospace Equipment Maintenance*. It establishes inventory, status, and utilization reporting for selected aerospace vehicles and equipment. It applies to the US Air Force, Air Force Reserve, Air National Guard, and Government plant representatives assigned to commercial contractor facilities. This instruction implements the materiel condition measurement reporting requirements of DoD Instruction 3110.5, Material Condition Reporting for Mission - Essential Systems and Equipment, September 14, 1990. In addition, it provides guidance and direction for managing aircraft and missile equipment throughout the Air Force. Major Commands (MAJCOM) and Field Operating Agencies (FOA) may supplement this instruction or the allied publications according to AFI 37-160V1. Supplements must not deviate from the basic intent of this instruction. Supplements must include unique requirements that are essential to the command. Send one copy of each command supplement to HQ USAF/ILMM, HQ AFMC/LGMM, HQ AFMC/XRWC, ANGRC/LGM, and HQ AFRES/LGM.

(AFMC) This document supplements (AFI) 21-103, *Equipment Inventory, Status, and Utilization Reporting.* This supplement provides the minimum essential systems and subsystems for AFMC test and test support aircraft. This supplement has been built to provide the Minimum Essential Subsytems List (MESL) that affects the various Mission Design Series (MDS) aircraft assigned to AFMC. They list the minimum essential systems and subsystems that must work on an aircraft for it to perform specifically assigned unit test or test support missions. For the purpose of this supplement two standard MESL mission codes are used; Developmental Test (DTE), which provides requirements for those aircraft undergoing test program/effort, and Developmental Test Support (DTS), which provides the requirements for those aircraft performing test support (i.e, photo/safety chase, proficiency/upgrade, test pilot school requirements, air show/demonstrations, etc.).

SUMMARY OF REVISIONS

This interim change (IC) 98-1 provides additional guidance for reporting aircraft maintenance status.

Chapter 1

REPORTING GUIDELINES

1.1. Using Report Information . The Air Force uses the information from reports produced by each reporting system mainly for accounting and analysis. Each reporting system also gives basic historical management information and data on equipment availability and use to all levels of command. Use this information to:

1.1.1. Compute the official Air Force inventory.

1.1.2. Build the Air Force programming documents and their related budget and staffing requirements.

1.1.3. Produce statistical analysis for congressional committees, the Office of Management and Budget, and the Department of Defense.

1.1.4. Establish mission capability (MC) goals. These goals enable HQ USAF to assess resource allocation funding on a quarterly basis. The MC-rate goals and plans also go into the yearly DoD Materiel Readiness Report to Congress.

1.2. Correct Reporting. Because the Air Force uses reports named in this instruction to develop and defend the US Air Force Plan, Program, and Budget, correct and timely reporting is critical. Errors in reporting can cause the Air Force to lose needed funding, manpower authorizations, and supplies.

1.3. Offices of Responsibility. The office of primary responsibility (OPR) for this instruction is HQ AFMC/LGMM, 4375 Childlaw Rd, Ste 6, Wright-Patterson AFB OH 45433-5006. Offices of collateral responsibility (OCR) are:

- Aerospace Vehicle Inventory - HQ USAF/XPI, 1070 Air Force Pentagon, Washington DC 20330-1070.
- Intercontinental Ballistic Missile Status - HQ AFSPC, 150 Vandenberg St, Ste 1105, Peterson Air Force Base CO 80914-4470.
- Aerospace Vehicle Utilization - HQ USAF/XOFP, 1480 Air Force Pentagon, Washington DC 20330-1480.
- Aerospace Vehicle Status - HQ USAF/ILMM, 1030 Air Force Pentagon, Washington DC 20330-1030.
- Communications-Electronics (CE) Status and Inventory Reporting - HQ AFCA/SYYM, 203 W. Losey St., Room 3065, Scott Air Force Base IL 62225-5234.

1.4. Allied Publications. For personnel to carry out the procedures in this instruction, Functional User manuals must include:

- Detailed rules for filling out the forms.
- Instructions for data entry.
- Report formats.

Chapter 2

AIRCRAFT, DRONE, AND REMOTELY PILOTED VEHICLES (RPVS)INVENTORY, STATUS, AND UTILIZATION REPORTING

Section 2A—Reporting System Overview

2.1. Concepts.

2.1.1. Each aerospace vehicle is the possession of an Air Force unit or depot. The possessing unit or depot reports:

- The hours it possesses the aerospace vehicle.
- Changes in aerospace vehicle possession.
- Status conditions that affect an aerospace vehicle's ability to perform assigned missions.
- Flying hours and sorties.

2.1.2. If a contractor controls or maintains an aircraft that needs inventory, status, and utilization reporting, the administrative contracting officer must submit the needed reports or information to the agency that asks for them, unless the applicable contract states otherwise. Use these reports whenever it is in the best interest of the Government.

2.2. The Reporting System . Units process inventory, status and utilization data using a Maintenance Management Information System (MMIS). MAJCOMs, Field Operating Agencies (FOAs), HQ AFMC, HQ USAF, and other authorized users of the REMIS database check the data.

2.3. Transmitting Data. Send data collected in the MMIS at specified times over the approved communications network to the REMIS database.

2.4. Security Classification. Aircraft inventory, status, and utilization data reported under this instruction are unclassified. Do not enter classified data into the MMIS or REMIS.

Section 2B—Reporting Responsibilities

2.5. Base and Depot Level Activities. Reporting starts at base or depot level.

2.5.1. Wing/ Group Commanders or depot equivalent responsibilities:

- Ensure that personnel maintain, correct, and report all data using the procedures in AFI 16-402, *Aerospace Vehicle Assignment, Distribution, Accounting, and Termination* and this instruction.
- Appoint a primary and alternate AVDO to report inventory, status, and utilization for the unit or depot.
- Assign a single Point Of Contact (POC) within Operations to check the unit's or depot's utilization and to verify flying hour inputs with the proper organization every day.
- Review reported aircraft status with the base supply POC.

2.5.2. Unit and Depot AVDOs:

- Are the primary POCs for aircraft inventory, status, and utilization reporting within their organization.
- Establish and publish procedures for operations and maintenance to verify the unit or depot flying hours and sorties are correct.
- Monitor and/or input data in the MMIS daily.
- Resolve any data reporting problems.
- Ensure equipment loads to MMIS for aerospace vehicles contain current operating time, equal to or greater than REMIS values, prior to performing gain transactions.
- Initiate inventory transactions and movement reports as required.
- Send out messages on time as stated in this instruction and MAJCOM supplements.
- Follow procedures stated in AFI 16-402, *Aerospace Vehicle Assignment, Distribution, Accounting and Termination.*
- Ensure DD Form 1149, *Requisition and Invoice/Shipping Document*, is filled out and sent as required (see attachment 11).
- Distribute assigned aircraft as required.
- Coordinate with depots or contractors to report aerospace vehicle inventory changes.

2.5.3. Wing Data Base Managers:

- Monitor the receipt acknowledgment output transmittal files.
- Establish depot reporting units for depot field team reporting.

2.6. MAJCOM and FOA AVDO Monitors.

2.6.1. Utilization Monitors:

- Ensure utilization data reported by their units is correct and up-to-date.
- Resolve any reporting differences or problems.
- Ensure utilization data is coordinated between Operations and Maintenance.
- Assist MAJCOM agencies extract data from REMIS.
- Represent their MAJCOM or FOA at Headquarters AF utilization meetings.
- Verify REMIS data not later than the 25th day of each month.
- Maintain the REMIS utilization data and Aircraft Utilization/Mission Code Table for their MAJCOM as shown in AFCSM 25-524, Volume IV, *EIMSURS Users Manual.*

2.6.2. Inventory Monitors (MAJCOM AVDOs):

- Represent their MAJCOM or FOA at AVDO meetings.

2.6.2.1. For aircraft assignment:

- Assign command aircraft based on Major Force Program authorizations.
- Work with other MAJCOM AVDOs, staff agencies, intermediate command headquarters, and specific units in assigning, controlling, and distributing aircraft.

- Assign aircraft within the command by issuing transfer instructions, which are kept on file.
- Follow up in writing any directive issued by telephone.
- Complete aircraft assignments or reassignments no earlier than 30 calendar days prior to the effective date.
- Help MAJCOM agencies extract data from REMIS to assist them in monitoring the Programmed Depot Maintenance (PDM) and modification schedules.
- Serve as the OCR for maintaining the Geographic Location Code Table, Command Code Table, Aircraft Utilization/Mission Code Table, and Organization table in REMIS, as shown in AFCSM 25-524, vol IV.

2.6.2.2. For aircraft transfer, replacement, or disposal:

- Coordinate with other MAJCOMs, Air National Guard Bureau, Air Force Reserve, and non-USAF organizations to move, ship, or transfer vehicles inter-theater and to file applicable movement reports.
- Provide technical help to subordinate AVDOs.
- Provide HQ USAF/XPI, HQ USAF/XPP, and concerned countries assistance in replacing and disposing of aircraft allocated to the Security Assistance Program (SAP).
- Work with transferring units to choose aircraft serial numbers to meet T.O. 00-20-1, *Preventive Maintenance Program* configuration requirements.

2.7. HQ AFMC.

- Is the Air Force AVDO.
- Collects and checks data reported under this instruction.
- Keeps the master Air Force assigned aircraft inventory up-to-date as stated in AFI 16-402, *Aerospace Vehicle Assignment, Distribution, Accounting and Termination.*
- Is the OPR for REMIS' Geographic Location Code Table, Command Code Table, and Organization Table.

2.8. Contract Administration Activities (Except Contract Field Teams). Report all gains, losses, and terminations as stated in either this instruction, its supplements, or in accordance with maintenance contracts.

Section 2C—Aircraft Inventory Reporting

2.9. Assignment procedure. Inventory reporting starts when an aircraft is accepted according to this section and HQ USAF/XPMP initiates the first assignment procedure according to AFI 16-402, *Aerospace Vehicle Assignment, Distribution, Accounting and Termination.*

2.10. Possession Reporting.

2.10.1. What To Report as Possessed Inventory:

- All US Air Force-owned aircraft, including those on loan or leased to agencies outside the US Air Force.
- Non-US Air Force-owned aircraft as directed by HQ USAF.

2.10.2. Procedures. When a unit or depot gains or loses possession of an aerospace vehicle, the unit or depot must:

- Start or stop possession reporting.
- Coordinate the gain/loss time of transfer with the reciprocating unit.
- Inform the base/depot engine manager of all aerospace vehicle losses, gains, and terminations.

2.11. Criteria for Gaining or Losing Possession. Possession of an aircraft changes when:

2.11.1. The flight crew of the gaining organization accepts and leaves with the aerospace vehicle unless otherwise stated in an inter-command MOA. The time of possession change is the actual time the aircraft takes off from the losing organization. For aircraft moved in a "PJ" purpose identifier, the possession changes at the time the Traffic Management Office (TMO) of the gaining organization accepts the aircraft.

2.11.2. The flight crew of the losing organization, or a neutral flight crew, delivers the aircraft. The time of possession changes when the engines shut down at the gaining base.

NOTE:

The Air Combat Command Air Operations Squadron ACC/AOS air crew is considered a neutral crew if they do not come from the losing or gaining unit.

2.11.3. An aerospace vehicle is damaged or destroyed. In this event:

- The nearest base with the necessary repair or reclamation capability takes possession. The time of possession change is the time of landing or crash.
- Possession does not change if the parent organization does the repair, reclamation or termination, however the unit AVDO must initiate the proper station location code and possession purpose identifier changes.

2.11.4. A transient aircraft requires maintenance lasting more than 7 calendar days. In this event:

- The organization that does the maintenance gains possession of the aircraft as soon as it's clear that the work cannot be completed in 7 days.
- Do not change possession if the parent organization does the maintenance. The unit AVDO must change the station location code and possession purpose identifier to "BL."
- Do not transfer possession for AMC aircraft in transit at bases where AMC has transient or en-route maintenance responsibility, unless depot assistance is required.
- Do not transfer possession for KC-10 aircraft unless depot assistance is required.

2.11.5. An authorized government representative accepts an aircraft from a contractor on behalf of the Air Force. In this situation:

- HQ AFMC becomes the first possessing activity for new production aircraft. HQ AFMC/LGM-AVDO processes the gain.

- REMIS automatically generates the loss of a new production aircraft in REMIS after it receives the gain transaction.

2.12. Criteria for Terminating Possession. Possession terminates at the time the aerospace vehicle meets the termination requirements of this instruction, AFI 16-402, *Aerospace Vehicle Assignment, Distribution, Accounting and Termination*, and the Air Force Data Dictionary. Terminate the aerospace vehicle and cease reporting if it has permanently transferred to non-Air Force activities such as:

- Foreign countries, as applicable.
- Other DoD agencies, such as US Army or US Navy.
- Other Government agencies.

2.13. Criteria for Reporting Aircraft as Deployed. When sending aerospace vehicles for use at other locations or for specialized maintenance (other than that done by a depot), list such movements and their possession accountability according to the criteria contained in paragraphs 2.13.1 through 2.13.5.

2.13.1. Satellite Operation and Detachment. An aircraft is in a satellite operation or detachment when it is moved to another station but the parent command unit continues to operate and support it.

NOTE:

Do not change possession accountability unless directed by an Operation Plan (OPLAN). The command of possession is that command to which the flying hours are allocated.

2.13.2. Rotations. An aircraft is on rotation when direct responsibility for its operation or support changes between CONUS or overseas activities, commands, or units.

2.13.2.1. Since the flying hours are allocated according to PA documents, MAJCOMs may not change possession accountability unless the host organization is within their own command.

2.13.2.2. When the aircraft moves as a part of a total unit movement that will not integrate under a host control, the possessing organization stays the same or changes as stated in the OPLAN.

2.13.2.3. Change in station location may be made by MAJCOM option.

2.13.2.4. All reporting is done according to the OPLAN.

2.13.2.5. MAJCOMs must include the time of transfer in the OPLAN describing the movement.

2.13.3. Supporting Exercises.

2.13.3.1. The OPLAN must state possession accountability for aircraft moved to support intra-command, inter-command, or inter-service missions.

2.13.3.2. If the PA document uniquely allocates the flying hours or utilization for the aircraft, the command to which the flying hours are allocated is always the possessing command.

2.13.4. Consolidated or Centralized Repair Activities. When you move an aircraft for corrosion control, refurbishment, or other maintenance, normal reporting procedures apply unless otherwise directed by the MAJCOM AVDO.

2.13.5. Loaned Aircraft. Possession changes to the command and unit having direct responsibility for using and supporting the aircraft. The MAJCOM AVDOs or operational order direct the change.

2.14. Possession Reporting Criteria for Depot Teams. If an aircraft goes in for maintenance by contract or depot field teams, transfer possession according to these criteria:

2.14.1. For field teams (depot or contract) performing maintenance or modifications, the unit AVDO reports the possession change.

2.14.1.1. Transfer possession to AFMC in purpose identifier "DJ" when the operating command receives formal AFMC acknowledgment of repair responsibility per T.O. 00-25-107, *Maintenance Assistance,* but before the team starts the repair.

2.14.1.2. Change possession to purpose identifier "DM" when the depot field team begins repairing (modifying or doing maintenance on) the aircraft.

2.14.1.3. Change the aircraft possession purpose identifier to "DR" only if an AFMC aircrew will perform a Functional Check Flight (FCF).

2.14.1.4. Possession returns to the proper organization if:

- The aircraft has received all assigned work and the required operational check or FCF (if part of the workload agreement)is accomplished.
- The host or operating organization receives, accepts, and controls the aircraft.
- The host or operating organization will accomplish a permanent inventory loss transaction ("TP").

2.14.2. Other Field Teams. If an aircraft receives depot field team maintenance other than stated above, the command with command control responsibilities over the team doing the work possesses the aircraft.

2.14.2.1. State these responsibilities in the workload agreement.

2.14.2.2. The unit must do the required inventory reporting.

2.15. Notifying MAJCOMs of Possession Changes.

2.15.1. Accurate reporting of possession changes is essential in order for the Air Force to accurately account for the location and use of the aircraft inventory. MAJCOMs determine procedures for reporting changes of possession within the command. Possession change messages are required on aircraft transfers between commands. For transfers between commands the reporting organizations must use the same time and date. Sections 2.15 and 2.16 discuss the procedures to follow.

2.16. Gain Message (RCS: HAF-LGM(AR)9480, Aerospace Equipment Posses s i o n   Ch a n g e Report). The unit or depot AVDO of the organization gaining the aircraft sends a priority gain message not later than the first workday after the possession changes. See attachment 11 for a sample gain message and instructions for preparing it.   This report is designated emergency status code (ESC) C-1. Continue reporting during emergency conditions, priority precedence. Submit data requirements assigned this category as prescribed or by any means to ensure arrival on published due dates.

2.17. Loss Message (RCS: HAF-LGM(AR)9480, Aerospace Equipment Posses s i o n   Ch a n g e Report). The unit or depot AVDO of the organization losing possession of an aircraft sends a priority loss message not later than the first workday after the possession change takes place. On new production aircraft whose engines are tracked as outlined in TO 00-25-254-1 series publications, the Air Force pro-

gram office will include engine serial numbers on the loss message. See attachment 12 for a sample loss message and instructions for preparing it. This report is designated emergency status code (ESC) C-1. Continue reporting during emergency conditions, priority precedence. Submit data requirements assigned this category as prescribed or by any means to ensure arrival on published due dates.

2.18. Termination Message (RCS: HAF-LGM(AR)9481, Aerospace Equipment Termination Report). The unit or depot AVDO of the organization losing accountability of an aircraft must send a priority termination message not later than the first workday after it has been decided the aircraft should be terminated. See attachment 13 for a sample termination message and instructions for preparing it. This report is designated emergency status code (ESC) C-1. Continue reporting during emergency conditions, priority precedence. Submit data requirements assigned this category as prescribed or by any means to ensure arrival on published due dates.

NOTE:

If a losing organization has removed the engine/s from an aircraft prior to the termination due to display or storage at Aerospace Maintenance and Regeneration Center (AMARC), then the aircraft termination message must state at item 11 that no engine/s were installed on aircraft. The Engine Manager must continue to report all engines according to AFI 21-104, Selective Management of Selected Gas Turbine Engines and T.O. 00-25-254-1/-2, Comprehensive Engine Management System.

2.19. Possession Purpose Identifier Code Change Message (RCS: HAF-LGM (AR)9482, Aerospace Equipment Possession Purpose Identifier Code Change Report). When changing a possession purpose identifier, the possessing unit or depot AVDO must send a priority message not later than the first workday after the change. See attachment 14 for a sample possession purpose identifier change message and instructions for preparing it.   This report is designated emergency status code (ESC) C-1. Continue reporting during emergency conditions, priority precedence. Submit data requirements assigned this category as prescribed or by any means to ensure arrival on published due dates.

2.20. Mission, Design, Series (MDS)/Configuration Identifier Change Message (RCS: HAF-LGM(AR)9483, Aerospace Equipment MDS/Configuration Identifier Change Report). The AVDO of the organization changing the MDS or configuration identifier must send a MDS/configuration identifier change message. Obtain proper authorization from the MAJCOM AVDO before making the change, and send a priority message not later than the first workday after the change. See attachment 15 for a sample MDS/Configuration identifier change message and instructions for preparing it. This report is designated emergency status code (ESC) C-1. Continue reporting during emergency conditions, normal precedence. Submit data requirements in this category as prescribed, or as soon as possible after submission of priority reports.

2.21. How To Determine Codes. Attachment 4 lists the references used in inventory reporting under this instruction.

Section 2D—Aircraft Logistics Status Reporting

2.22. Reporting Maintenance Status. The reporting requirements in this section are exempt from licensing in accordance with paragraph 2.11.3 of AFI 37-124, *The Information Collections and Reports Management Program; Controlling Internal, Public, and Interagency Air Force Information Collections*.

2.22.1. Use multiple status reporting to the extent practical.

- Multiple Status meaning an aircraft can be broken for more than one condition at the same time.

2.22.2. MAJCOMs may choose which aircraft possession purpose identifiers to use in computing and developing rates and standards for individual organizations.

2.22.3. ALCs do not have to report status.

2.23. Determining Maintenance Status.

2.23.1. Attachment 2 gives a list of maintenance and status codes and their definitions, which are based on DoDI 3110.5. These codes describe the capability of an aerospace vehicle to do its assigned missions, that is, a unit's specifically assigned wartime, training, or test missions as specified in:

- The unit's Designed Operational Capability (DOC) statements.
- Unit training syllabuses.
- Test mission requirements.

2.23.2. Report any aircraft that is not Full Mission Capable (FMC) with a maintenance status code determined by the following criteria:

- Report an aircraft that can not do all of its assigned missions as Partial Mission Capable (PMC) or any of its missions for Not Mission Capable (NMC).
- Add the letter M (maintenance), S (supply), or B (both maintenance and supply) to show the reason the aircraft is PMC or NMC.
- Aircraft in codes NMCM and NMCB also show if the needed maintenance is scheduled (S) or unscheduled (U).
- The dual status condition--Not Mission Capable Both (NMCB) or Partial Mission Capable Both (PMCB)--starts when an aircraft requires both maintenance and supplies.
- Change an existing maintenance or supply condition to the dual condition if discovering a second problem. For example, when an aircraft is in NMCM maintenance status code and then you find a supply problem (NMCS), change the reported status to NMCB.
- Change the dual condition when you have rectified either the maintenance or the supply problem. For example, if you fix the maintenance problem before the supply problem, change the NMCB status code to NMCS.

2.23.3. Scheduled or unscheduled maintenance stops when you finish maintenance according to applicable technical data using the following criteria:

- When all ground operations checks are complete.
- If in-flight operational checks are required by technical data, maintenance status will stop when all ground checks leading up to the in-flight operational check are completed.
- When you verify that a lack of parts limits the mission

2.23.3.1. If a Functional Check Flight (FCF) is required IAW T.O. 1-1-300, -6 FCF requirements, or any other applicable technical data, maintenance status will not stop until the FCF is completed.

2.23.4. Supply status starts after all of these actions occur:

- You find that the aircraft requires an essential part.
- You make a valid demand on supply and/or depot.

NOTE:

When the Engine Manager makes a demand on depot for supported replacement engine to fill an aircraft hole for which no serviceable or repairable asset is available at the unit.

- Maintenance verifies that the part is essential.
- Maintenance and supply work together to verify that no agency on the base has the needed part.

2.23.5. Supply time stops when maintenance receives the parts. If maintenance cannot accept the parts when they are available, the supply status time stops at the time that supply receives the parts.

2.23.6. When you find an aircraft discrepancy during flight, maintenance status starts at the time the aircraft returns to its parking spot/engine shutdown.

2.23.7. When you find an aircraft discrepancy during ground operation, maintenance status starts at the time you found the discrepancy.

2.23.8. When maintenance places an MC aircraft into Planned Scheduled Maintenance, the status changes only if you determine that maintenance can not, and will not return the aircraft to a MC status within 2 hours.

2.23.8.1. For example, if maintenance performs Planned Scheduled Maintenance on an otherwise MC aircraft and can and will return, or is scheduled to return, the aircraft to MC status within 2 hours, do not report it as NMC.

2.23.8.2. As another example, when you find a discrepancy during scheduled maintenance that causes the aircraft to be declared NMC, and maintenance will need more than 2 hours to return the aircraft to MC status, NMC status starts when you find the discrepancy.

2.23.8.3. Aircraft entering phase, periodic, Aircraft Structural Integrity Program (ASIP), or isochronal inspections will be coded NMC using the support general WUC for the inspection. This condition should continue at least through the look phase of the inspection.

2.23.9. Management uses certain groupings of status codes to perform summaries, analyses, briefings, and so on. These groupings show total supply and maintenance limitations. A complete list of these groupings appear in attachment 2.

2.24. Pacing Items.

2.24.1. Units will report the WUC for the mission limiting condition which will take the longest for maintenance to correct on an aircraft in PMC and NMC status.

2.25. Minimum Essential Subsystems List (MESL).

2.25.1. MESLs lay the groundwork for reporting the status of aircraft capability. They list the minimum essential systems and subsystems that must work on an aircraft for it to perform specifically assigned unit wartime, training, test or other missions. The MESL brings together two lists: the Full Systems List (FSL) and the Basic Systems List (BSL).

2.25.1.1. The BSL lists a unit's specifically assigned wartime, training, and test missions and the systems and subsystems that must be working for a unit to accomplish those missions.

2.25.1.2. The FSL lists all systems and subsystems needed for Full Mission Performance. It lists the essential systems and subsystems that must be working to do all BSL missions (specifically assigned unit wartime, training, or test missions), and other kinds of unit sorties such as Program Depot Maintenance (PDM) delivery flights, aircraft transfer flights, cross-countries, or other training sorties that units fly.

2.25.2. The MESL allows you to compare the aircraft's systems, subsystems, and components, by work unit codes (WUC), against the FSL and BSL across the page. In each column, mark the equipment that must be working with an "X."

2.25.3. A system may have an "X" in the FSL column only or in the FSL column and any or all of the BSL columns.

2.25.3.1. If there is an "X" in the FSL column only, the equipment does not have any specifically assigned unit wartime, training, or test mission. The equipment may have other kinds of unit sorties or missions to fly, such as those listed in paragraph 2.25.1.2.

2.25.3.2. If there is an "X" in the FSL column and any or all of the BSL columns, the equipment must be operational for the mission identified by the column heading.

2.25.3.3. If any system or subsystem with an "X" in the FSL column only is not working, put the aircraft in maintenance status code PMC.

2.25.4. If any system or subsystem with an "X" in the FSL and all BSL columns is not working, the aircraft cannot do any mission and gets status code NMC. If any BSL column does not have an "X" for the inoperative system the status code is PMC.

2.25.5. Determine the adverse impact of non-working components within listed systems or subsystems on a case-by-case basis. Components may appear on a MESL if the component is the only part of the subsystem that must be operational.

2.25.6. For degraded system performance evaluations, decide whether the overall system or subsystem can still support applicable mission requirements.

2.25.7. Units that possess aircraft not equipped, and/or not programmed to be equipped, with a listed system or subsystem should not report status on that equipment, unless the MESL states otherwise.

2.26. Developing the MESL. MESLs will be developed in accordance with AFPD 10-9. MAJCOMs must make sure that MESLs list only the minimum essential aircraft systems or subsystems that must be working in order for a unit to accomplish its mission.

2.26.1. Units can fly missions and sorties other than specifically assigned wartime, training, or test missions. Since the FSL is an all-inclusive list, build it to include all systems and subsystems on any or all BSLs and those required for sorties and missions that are not specifically assigned to that unit by the DOC, aircrew training, or flight test taskings.

2.26.2. The MESL does not portray the role that these "other" type missions and sorties may play. The aerospace vehicle status will be PMC if an inoperative system or subsystem is on the FSL only because of the limitation to full mission performance.

2.26.3. MESL BSL columns show standard mission codes that name the specific wartime, aircrew training, and test missions assigned to a unit. MAJCOMs may build and use additional unique mission codes when needed, as long as the codes are standardized within the MAJCOM. Standard MESL mission codes are listed in attachment 3.

2.26.4. A sample MESL is shown in table 2.1.

Table 2.1. Sample MESL.

F -15 MINIMUM ESSENTIAL SUBSYSTEM LIST (MESL)					
			FSL	BSL	
NO.	WUC	SYSTEM/SUBSYSTEM		ASY	ADC
1.	11	AIRFRAME	X	X	X
2.	12	COCKPIT AND FUSELAGE COMPARTMENTS	X	X	X
3.	13	LANDING GEAR	X	X	X
4.	14	FLIGHT CONTROLS	X	X	X
5.	23	TURBOFAN POWER PLANT	X	X	X
6.	24	AUXILIARY POWER PLANT	X	X	X
7.	41	CABIN AND AVIONICS ECS	X	X1	X1
8.	42	ELECTRICAL SYSTEM	X	X	X
9.	44	AEXTERNAL LIGHTING SYSTEM	X2	X9	X9
10.	44	B/EINTERNAL LIGHTING SYSTEM	X	X	X
11.	45	HYDRAULIC SYSTEM	X	X	X
12.	46	FUEL SYSTEM	X6	X6	X6
13.	47	LIQUID OXYGEN SYSTEM	X	X	X
14.	49	MISCELLANEOUS UTILITIES	X	X	X
15.	51	INSTRUMENTS	X	X	X
:					
:					
43.	76K	COUNTERMEASURES DISPENSER	X3	X3	X3
44.	91	EMERGENCY EQUIPMENT	X	X	X
45.	97	EXPLOSIVE DEVICES AND COMPONENTS	X	X	X

Notes:

1. Rear Cockpit Systems/Subsystems/Components Not Required To Be Operational For BSLs.

2. Manual Mode Only Required.

3. As Required By AFI 11-206, General Flight Rules.

4. When Equipped.

5. Have Quick/Secure Voice Required If Aircraft Is Modify

6. All Eight Aim-7/AIM-9 Stations Required For FMC Any Combination Of Six Required For PMC.

7. Conformal Fuel System Required When Equipped.

8. Excludes Hud Camera - 74KEO.

9. F-15B And F-15D Must Be External ECM Pod Capable.

10. Strip Lighting Required As A Minimum.

2.27. Determining Aircraft Maintenance Status and Capability.

2.27.1. The MESL does not determine airworthiness or "safety-of-flight": Technical data, maintenance crews and aircrew judgment alone determine airworthiness. Do not use the MESL to gauge "go/no-go" decisions.

2.27.2. You may fly an aircraft in maintenance status NMC Airworthy for sorties even if it is not capable of flying any of its BSL missions. (NMCK, NMCL, NMCM, NMCN,or NMCP).

2.27.3. You may deploy an NMC Airworthy aircraft as long as it can be returned to MC status (FMC or PMC) at an employment site.

2.27.4. An aircraft is FMC if:

- All systems, subsystems, and components having an "X" in the FSL column are working (the aircraft can do all missions and sorties).

- A system, subsystem, or component having an "X" in the FSL column or any BSL column is degraded but is still capable of full mission performance.

2.27.5. An aircraft is PMC if:

- One or more systems, subsystems, or components are not working and have an "X" in the FSL column only (the aircraft can do all BSL missions but is not fully equipped or capable of full mission performance).

- Systems, subsystems, or components that are not working and are not needed for unit specifically assigned wartime missions but, are needed for safe aircraft operation during peacetime (safety-of-flight discrepancies).

- One or more systems, subsystems, or components are not working and have an "X" in the FSL column and in at least one, but not all, BSL columns (the aircraft can do at least one, but not all, of its BSL missions).

- A system, subsystem, or component is degraded and has an "X" in the FSL column and all BSL columns but can support some of its BSL missions.

2.27.6. An aircraft is NMC if:

- One or more systems, subsystems, or components having an "X" in the FSL column and all BSL columns are not working (the aircraft can't do any BSL missions).
- The aircraft is "grounded" (not flyable).
- The aircraft can not fly any of the unit's BSL missions.

NOTE:

The engineer at the ALC may approve the aircraft for a one time flight to a maintenance facility.

2.27.7. Use the Aircraft Maintenance Status Code Flow Chart in Table 2.2. to help determine the proper aircraft maintenance and condition status codes to report.

Table 2.2. Aircraft Maintenance Status Code Flow Chart.

AIRCRAFT MAINTENANCE STATUS CODE FLOW CHART		
QUESTION	RESPONSE	ACTION
A. Is the aircraft RESTRICTED from use or FLYABLE (Airworthy)?	RESTRICTED FLYABLE	NMC(Restricted - Note 1) Go to question B
B. Does a discrepancy exist against any system/subsystem/component listed on the FSL that limits or prevents full mission performance?	YES NO	Go to question C FMC
C. Is the system/subsystem/component identified on any BSLs	YESNO	Go to question D PMC
D. Is the system/subsystem/component identified on all BSLs	YESNO	Go to question E PMC
E. Is the system/subsystem/component completely inoperative or display degraded performance? (Note 3)	INOPDEGRADED	NMC (Airworthy -Note 2)Go to question F
F. Can the system/subsystem/component still perform at least one wartime/ training/ test mission?	YES NO	PMCNMC (Airworthy - Note 2)

Notes:

1. Input maintenance status code NMCM, B or, S and condition status code A through E, as appropriate, into appropriate maintenance information system.

2. Input maintenance status code NMCM, B or S, and condition status code K, L, M, N, or P, as appropriate, into appropriate maintenance information system.

3. Degraded systems are those systems that are not fully operational but work well enough to perform at least one assigned mission, or part of an assigned mission.

Section 2E—Aircraft Utilization Reporting

2.28. Aircraft Utilization Reporting Concept. Report unit or depot flying hours and sorties by Program Element Code (PEC) and mission symbol for each possessed aircraft. This data helps determine future inspection and modification requirements including the Aircraft Structural Integrity Program (ASIP) and Reliability and Maintainability Programs.   CAMS data must be input no later than midnight the forth calendar day of the following month. Any flying time reported after the forth calendar day will be reported in the next months data in CAMS.   The reporting requirements in this section are exempt from licensing in accordance with paragraph 2.11.3 of AFI 37-124, *The Information Collections and Reports Management Program; Controlling Internal, Public, and Interagency Air Force Information Collections*.

2.28.1. Each MAJCOM's utilization data goes into the REMIS. If the possessing unit is not in the command that was allocated the hours to be flown, the MAJCOM AVDO or the MAJCOM utilization monitor credits the hours to the assigned command by using the "L" (loan) indicator in REMIS.

2.28.2. The reporting period is based on Greenwich Mean Time (GMT). If aircraft take off after 0001Z the first day of the GMT month, report utilization for that month.

2.28.2.1. If the base or MAJCOM is reporting flying hours on aircraft at locations other than where they are possessed, the base or MAJCOM explains how to get the hours to the possessed location. The base or MAJCOM may use interim reporting means such as phone or fax. Avoid duplicate reporting when the aircraft returns to its possessed location and process the original AFTO Form 781, *AFORM Aircrew/Mission Flight Data Document*, for records update.

2.28.2.2. When an AFMC contractor or depot field team possesses an aircraft and an AFMC aircrew will fly the FCF, the reporting base submits utilization data using:

  • A "DR" possession purpose identifier.
  • PEC 0702007F.
  • Program Element Identification (PEID) "I" (INDIA).
  • Command code "MTC" for the field team.
  • Field Team organization.

2.28.3. In aircraft movements such as rotations and deployments, the MAJCOM AVDO (or utilization monitor) should consider ease of reporting and flying hour accountability in deciding whether to transfer possession to the operating location.

2.28.3.1. If the movement involves more than one MAJCOM, the AVDOs must agree on the inventory reporting changes to make sure that the utilization is reported to the desired MAJCOM. The MAJCOM AVDO issues inventory reporting instructions before aircraft movement unless the movement is urgent.

2.29. What to Report. Utilization reporting is required for all aircraft except those in possession purpose codes XU, XY, and NY.

Section 2F—Accountability, Termination, and Delivery Procedures

2.30. Aircraft Accountability.

2.30.1. HQ AFMC/LGM-AVDO maintains accountability on AFMC Form 1026, Aircraft Account-ability Record, for all Air Force aircraft. The AF AVDO assigns voucher numbers for terminated vehicles and records them on AF Form 3131, *General Purpose* (used as a manual register of all assigned voucher numbers).

2.30.2. Accountability begins when DD Form 250, *Material Inspection and Receiving Report*, is signed.

2.30.3. Account for aircraft as long as they are assigned to an Air Force, Air National Guard, or US Air Force Reserve activity. Accountability ends on receipt of a termination message and/or DD Form 1149, with termination transactions input to the appropriate MMIS.

2.31. Final Termination Accountability.

2.31.1. The possessing unit AVDO initiates termination of accountability with a termination message and inputs the termination into the appropriate MMIS if:

- Loss or disposition is due to crash damage or major maintenance beyond economical repair.
- The Air Force reclaims excess serviceable or economically reparable aircraft and processes them as surplus or foreign excess. Dispose of these aircraft according to AFM 67-1, Volume 6, Chapter 9.

2.31.2. For crash-damaged aircraft, the possessing unit AVDO sends a termination message without waiting for mishap investigation board findings when the Logistics Group Commander, or their equivalent, determines the aircraft is completely beyond repair. If the decision is beyond the Groups capability and the System Program Director's determination is necessary, the AVDO terminates pos-session when they receive that determination via message. The possessing unit AVDO, citing the Group Commander's decision or the SPD's message, reports using HAF-LGM(AR)9481, Aerospace Equipment Termination Report, along with MMIS input.

NOTE:

Prior to terminating an Aerospace Vehicle from the MMIS archive all records.

2.31.2.1. Report aircraft wreckage that has been abandoned to the nearest Defense Reutilization Marketing Office for sale or formal abandonment.

2.31.3. The AVDO sends a copy of the termination message to the unit engine manager that has responsibility for the engines. This message gives the engine manager the authority to dispose of the engines according to AFI 21-104, *Management of Propulsion Programs*.

2.31.3.1. After the engine manager has disposed of or terminated the engines, the unit AVDO ter-minates the aircraft using the applicable termination code as described in the Air Force Data Dic-tionary.

2.31.4. Sometimes HQ USAF authorizes the termination of aircraft that cannot be terminated using standard procedures. In such cases, the possessing unit processes the termination. Be sure to cite the HQ USAF notification as authority.

2.31.5. Disposition of aircraft historical records: After release of aircraft historical records by the accident investigating board and/or terminated from the Air Force Inventory, retain the records for three months then destroy IAW 37-139, Records Distribution Schedule, Table 21-6, Rule 3.

2.32. Delivering Aircraft to Agencies Outside the Air Force.

2.32.1. Start these assignments according to AFI 16-402, *Aerospace Vehicle Assignment, Distribution, Accounting and Termination*. Fill out DD Form 1149 as shown in attachment 10.

2.32.2. Have the recipient sign the completed DD Form 1149 as soon as the aircraft is picked up/ delivered. Distribute the number of copies as shown in Table 2.3. within 10 calendar days.

Table 2.3. DD Form 1149 Distribution Chart.

For aircraft going to:	HQ AFMC/LGM LGM-AVDO WPAFB, OH	Copies to accompany aircraft forms binder	Totals
Foreign Countries	**Signed original**	**4**	**5**
Non-USAF activities	Signed original	2	3

2.33. Using AFTO Form 290, *Aerospace Vehicle Delivery Receipt***.**

2.33.1. Use AFTO Form 290 as a record of selected equipment that will be transferred with the aircraft. The form:

- Is not required if aircraft are moved by airlift or surface transportation.
- Is used in addition to the DD Form 1149.
- Gives the delivery pilot, transporter, or recipient organizations a complete list of items they must check.

2.33.2. Use AFTO Form 290 as:

- An aircraft receipt for delivery pilots or transporters.
- A receipt for selected equipment for aircraft and as a paperwork checklist.

2.33.3. The releasing organization (such as the AVDO or AFPRO at factories, depots, modification centers, and bases) or the delivery control officer at the base where the delivery started fills out the form, including:

- The aircraft or missile model and serial number.
- Account or contract number.
- Project and priority.
- Flight Transportation Order Number when known.
- Receiving organization (organization to which the aircraft will be delivered).
- Released by (the releasing organization's unit, base, and command).
- Delivery Point (point and date of release).
- Numbers Placed on Aircraft or Missile by Releasing Organization, column B (the numbers of listed items placed on each aircraft).

NOTE:
List all Confidential or Secret equipment installed on the aircraft in the space provided. Enter "none" in the "classified materiel installed on aircraft" block of AFTO Form 290 if the aircraft has no classified materiel installed.

2.33.3.1. The authorized representative at the delivering organization accepts the aircraft from delivery and accepts responsibility for paperwork and equipment listed in column B of the check-list by signing the delivery receipt in the space provided. The representative checks each item received in column C. When the check is complete, the representative initials the bottom of the column.

2.33.3.2. The delivery organization must not accept the aircraft until the items listed in column B match those on the aircraft.

2.33.3.3. If the authorized representative of the delivering organization is the pilot or transporter, fill out the AFTO Form 290 just before the aircraft actually departs.

2.33.3.4. Delivery control or transportation officers at factories or modification centers must check the items listed and sign AFTO Form 290.

2.33.4. At factories or modification centers, the delivery control or transportation officer may not have guards to keep close watch over received aircraft. Instead, a contractor, or other agency provides these services.

2.33.4.1. In these cases, the delivery control transportation office is not responsible for items listed on AFTO Form 290.

2.33.4.2. The delivery pilot or transporter of the delivery control or transportation officer must personally check all items and promptly sign a receipt for them on AFTO Form 290 in the "Transportation/Ferrying Organization Receipt" section before the aircraft departs.

2.33.5. AFTO Form 290 provides space in columns D through I for three intermediate stops. Use this space when the pilot or transporter is not staying with the aircraft and does not want to be responsible for the items on the checklist.

2.33.5.1. If the aircraft makes more than three intermediate stops, the pilot or transporter uses an additional set of forms and attaches them to the first form.

2.33.5.2. At these intermediate activities, the commanders or their authorized representatives take responsibility for the items after check-in.

2.33.5.3. The authorized activity representative and the pilot or transporter check the items immediately after the aircraft arrives.

2.33.5.4. If all items in column B match those on the aircraft, the activity representative checks the first open intermediate activity check-in column and initials the bottom of the column.

2.33.5.5. If an item is missing, the representative enters the correct figure in the check-in column. The pilot or transporter initials the corrected figure and explains the discrepancy in the remarks section of the form. After all items are checked, the activity commander is responsible for the equipment and papers.

2.33.5.6. The pilot or transporter checks the items in the checklist before the aircraft leaves. The pilot or transporter checks the proper intermediate activity check-out column and initials the bottom of the check-out column. The activity representative also initials the column. The activity representative must explain any discrepancy in the remarks section of the form, giving his or her grade and signature.

2.33.6. When the aircraft arrives, if the items in column B match those on the aircraft, the authorized representative of the recipient organization checks column J and initials the bottom of the column.

2.33.6.1. If an item is missing, the representative enters the corrected figure in column J and the pilot or transporter initials the corrected figure and explains in the remarks section of the form.

2.33.6.2. The authorized representative of the recipient organization then signs the receipt in the space provided on the form.

2.33.7. The releasing organization makes copies and sends them as follows:

- Copy 1 -- home station.
- Copy 2 -- pilot or transporter.
- Copy 3 -- recipient.
- Copy 4 -- releasing organization.
- Copy 5 -- Defense Plant Representative Office (DPRO) where the contractor facility is located, marked for the property administrator (if aircraft are delivered to the contractor facility).

2.33.8. The commands should work together to reduce the number of copies needed.

Section 2G—Reporting Assigned and Possessed Drones and Remotely Piloted Vehicles (RPVs)

2.34. Possession Reporting. The reporting requirements in this section are exempt from licensing in accordance with paragraph 2.11.5 of AFI 37-124, *The Information Collections and Reports Management Program; Controlling Internal, Public, and Interagency Air Force Information Collections*. Drone and RPV reporting begins when a drone or RPV is accepted according to this section and after HQ USAF/XPI starts assignment action by sending AF Form 913, ***Aerospace Vehicle Project Action***, and an Air Force Project Number to the Air Force AVDO at HQ AFMC/LGM-AVDO. (See AFI 16-402, ***Aerospace Vehicle Assignment, Distribution, Accounting and Termination***.) The Air Force AVDO sends the information to the MAJCOM AVDO. Either HQ USAF or the MAJCOM gives assignment changes to the Air Force AVDO (according to program documents) as they happen. HQ AFMC sends MAJCOM assignment changes to HQ USAF.

2.34.1. The unit gains possession of a drone or RPV when:

2.34.1.1. They move in a "PJ" purpose identifier. The possession changes at the time the Traffic Management Office (TMO) of the gaining organization accepts the drone or RPV.

2.34.1.2. An authorized government representative accepts the drone or RPV from a contractor on behalf of the Air Force. HQ AFMC becomes the first possessing activity for a new production drone or RPV at the time it is accepted. The gain is processed by AFMC/LGM-AVDO.

2.34.2. An organization loses possession of a drone or RPV when AFMC/LGM-AVDO computer-generates the loss of a new production drone or RPV for HQ AFMC. After the organization processes the loss transaction, it updates the REMIS inventory database.

2.34.3. Termination of possession starts at the time of transfer to the non-Air Force activity on the date that the drone or RPV meets termination requirements.

2.34.3.1. A drone or RPV is terminated and no longer needs to be reported if the drone or RPV is lost from the Air Force inventory or has been assigned (permanent transfer) to non-Air Force activities such as:

- Foreign countries.
- Other DoD and government agencies.

2.35. Notification Procedures.

2.35.1. Notification procedures are the same for drones and RPVs as previously outlined for aircraft in paragraphs 2.15 through 2.21.

Chapter 3

INVENTORY AND STATUS REPORTING OF MISSILES

Section 3A—Reporting Intercontinental Ballistic Missiles (ICBMs)

3.1. Types of Reporting.

3.1.1. Inventory and Status Reporting. ICBM reporting includes inventory and status reporting on Minuteman and Peacekeeper ICBMs. Reporting covers ICBMs assigned to operational units by HQ USAF and MAJCOM for specific missions. Reporting begins when:

- The missile is accepted according to this section.

- HQ USAF/PED initiates the first assignment action by sending mission design series (MDS), command of assignment, missile and purpose identifier, program element code (PEC), and assignment project to the Air Force AVDO. (See AFI 16-402, *Aerospace Vehicle Assignment, Distribution, Accounting and Termination*.)

3.1.1.1. The AVDO records this information and sends it to the MAJCOM. Either HQ USAF or the MAJCOMs provide changes to assignment data to the Air Force AVDO (according to program documents) as they occur.

3.1.1.2. HQ AFMC/LGM-AVDO sends HQ USAF assignment changes to the MAJCOM.

3.1.2. Possession Reporting. Possession is the actual acceptance or designation of responsibility for a missile. When the unit takes possession of an ICBM, the unit starts reporting according to this instruction and applicable systems instructions.

3.1.2.1. Units input all ICBM missile gains and losses into MMIS. Perform a semi-annual reconciliation of MMIS with REMIS.

3.1.2.2. Units will update the MMIS database even if they also use the Improved Maintenance Management Program (IMMP).

3.1.2.3. The unit processing the ICBM will report the gain as required.

EXCEPTION: For ICBMs transferred to Vandenberg AFB for follow-on operational test and evaluation (FOT&E) launch ("Glory Trip"), the assigned unit retains possession. The station location code is Vandenberg's (XUMU). Process a change in Geographic Location (GEO LOC) when the task force arrives and takes control of the missile.

3.2. Possession Gain and Loss Criteria.

3.2.1. An organization gains possession of a missile when the gaining organization accepts the missile.

3.2.2. An organization loses possession of the missile when the gaining organization accepts possession of the missile.

3.2.3. For missiles moved in PJ code, possession changes when the Traffic Management Office (TMO) of the gaining organization accepts the vehicle.

3.3. Notification Procedures. Use the same reporting procedures for ICBM possession changes as those spelled out for aircraft outlined in paragraphs 2.15 - 2.21. You may include more than one transaction in the same notification message.

EXCEPTIONS: Gaining possession messages must be sent and released the same duty day that possession changes. No airframe hours are required.

3.4. ICBM Accountability.

3.4.1. HQ AFMC/LGM-AVDO maintains accountability for ICBMs on the AFMC form 1026. The AVDO assigns voucher numbers for terminated ICBMs and records them on AF Form 3131, *Aerospace Vehicle Voucher Register*.

3.4.2. For all missiles assigned to an Air Force activity, accountability begins when the DD Form 250, *Material Inspection and Receiving Report*, is signed.

3.4.3. Accountability ends on receipt of a termination message and DD Form 1149 when applicable.

3.5. ICBM Condition Status Reporting.

3.5.1.   Report ICBM condition status through, RCS: HAF-LGM(M)7142, ICBM Condition Status Report. Transmit this report on the tenth working day of each month. This report is designated emergency status code (ESC) C-1. Continue reporting during emergency conditions, priority precedence. Submit data requirements assigned this category as prescribed or by any means to ensure arrival on published due dates. Use the Improved Maintenance Management Program (IMMP) to record the cause and duration of every ICBM status condition

3.5.2. Report the condition status on the entire ICBM site, including:

- The missile.
- Real property installed equipment (RPIE).
- Support equipment (SE).
- Any other equipment needed for launch.

3.5.2.1. The missile launch facility designator is the governing identifier for this system.

3.5.3. Condition statues are:

3.5.3.1. FMC - Fully Mission Capable. The ICBM is capable of doing its mission (effective launch).

3.5.3.2. NMCM - Not Mission Capable Maintenance. The ICBM is not capable of launching effectively because it is awaiting or undergoing scheduled or unscheduled maintenance.

3.5.3.3. NMCS - Not Mission Capable Supply. A valid NMCS condition exists according to AFM 67-1 and maintenance work stops.

3.5.3.4. PMC - Partially Mission Capable. The missile site is capable of doing some, but not all, of its mission: It cannot achieve or maintain the full range of designed launch capability over the designed period of time, and within the designed hardness, survivability, and operational parameters.

3.6. NMCM and NMCS Time.

3.6.1. NMCM time starts when you realize that an NMC condition exists. The time stops when either maintenance finishes the repair and the missile achieves strategic alert, or when you find a verified NMCS condition. NMCM time resumes when the required supply items arrive.

3.6.2. NMCS time starts when all of these conditions exist:

- When a parts requirement affects Single Integrated Operational Plan (SIOP) capability or launch capability.
- Maintenance makes a valid demand on supply.
- Maintenance verifies the impact of the needed part.
- Maintenance and supply together verify that the needed part (serviceable or reparable and not awaiting parts) is not available on base.
- Maintenance stops work on a system, subsystem, or component because the base lacks a needed part.

3.6.2.1. The NMCS time stops when maintenance receives the supply item or items.

3.6.2.2. If maintenance can't take delivery of the item when it becomes available, the NMCS time stops at the time supply received the part.

Section 3B—Air Launched Missiles

3.7. Air Launched Missile Reporting. Only report inventory and status (gains, losses, terminations). Use the same procedures as those for ICBMs in paragraph 3.1. and 3.2. Semi-annual reconciliation of MMIS missile inventories is required. Accomplish reconciliation per paragraph 3.1.2.1.

<center>Chapter 4</center>

<center>**TRAINER INVENTORY, STATUS, AND UTILIZATION REPORTING**</center>

4.1. Trainers Covered Under This Instruction. Air Force, Air Reserve, and Air National Guard units must report on the status, utilization and inventory of trainers listed in Air Force Data Dictionary, with ADE AE-625, *Aerospace Trainer Reporting Designator.* The reporting requirements in this section are exempt from licensing in accordance with paragraph 2.11.3 of AFI 37-124, *The Information Collections and Reports Management Program; Controlling Internal, Public, and Interagency Air Force Information Collections.*

EXCEPTION: Only report the inventory of training devices maintained and supported by Contractor Logistics Support (CLS), Total Contract Training (TCT), and Air Crew Training System (ATS) concepts. Also, only report inventory of technical trainers such as Maintenance Training Sets (MTS), and Resident Training Equipment (RTE).

4.1.1. Report trainer inventory and status through the MMIS.

4.2. Responsibilities.

4.2.1. Base Activities. Units that have trainers must prepare trainer information according to appropriate MMIS users manuals and this AFI. Possessing units include maintenance, operations, Air Education Training Command (AETC) field training detachments (FTDs). The possessing unit:

- Reports inventory, status and utilization of trainers in accordance with MMIS users manuals.

- Reviews the data and corrects the errors.

4.2.2. MAJCOMs, NGB, AFRES:

- Monitor the inventory.

- Decide whether maintenance, operations, or FTD should input the data into the maintenance information system.

- Appoint a command OPR for the reporting system who ensures the data reported is correct and up-to-date and corrects any reporting discrepancies or problems.

- At their option, use the trainer allocation subsystem to manage the command training programs.

- Make sure all command staff agencies responsible for training use their trainers according to command directives.

- Get command staff agencies to reallocate improperly used trainers to other units in the command that have a valid need.

- When the command no longer needs trainers under HQ USAF/XOOT control, request disposition instructions according to AFM 67-1, Volume I, Chapter 3, and this instruction.

4.2.3. HQ AFMC: HQ AFMC makes sure that the contracting documents state that the contractor must assign serial numbers to all trainers per AFM 23-110 and T.O. 43-1-1, *Maintenance, Inspection, Storage, Shipment and Serialization - -Training Devices and Trainer Maintenance Parts Maintained by Depot*.

4.3. Trainer Equipment Designators (EQD). See the Air Force Data Dictionary, for a list of trainer EQDs.

   4.3.1. Prefix the EQD with a group identification code that identifies the type of trainer by group.

      4.3.1.1. For example, report:

         • The F-15A mission simulator, type A/F 37AT49, , as 1BN000.

         • The LGM-25C missile guidance subsystem trainer, type AN/GSM-T7 as 2NV000.

         • The C-141 maintenance trainer as 40C141T.

      4.3.1.2. Report trainers that do not have a related system as "multi"; for example, report instrument trainer, type A/F37AT40, as 1MULTI. Use the appropriate group of the trainer in the first digit, as shown below:

         • Group 1: Aircrew trainers (instrument, flight, and mission simulators), not including cockpit procedure trainers and egress procedures trainers built by MAJCOMS other than AFMC.

         • Group 2: Missile trainers (ballistic and nonballistic).

         • Group 3: Navigation and electronics trainers.

         • Group 4: Technical trainers such as Maintenance Training Sets (MTS) and Resident Training Equipment (RTE).

4.4. Trainer Serial Number.

   4.4.1. The first four digits of the serial number for all groups of trainers are the serial number prefix for the reporting EQDs that apply.

   4.4.2. AFMC assigns the last six digits of the serial number as directed in AFM 23-110 and T.O. 43-1-1, *Maintenance, Inspection, Storage, Shipment and Serialization - - Training Devices and Trainer Maintenance Parts Maintained by Depot*.

   4.4.3. A cross-reference list for group-4 trainer serial numbers assigned AF ID numbers is in T.O. 43-1-1, *Maintenance, Inspection, Storage, Shipment and Serialization - -Training Devices and Trainer Maintenance Parts Maintained by Depot,* table 10-1.

4.5. Reporting Criteria. Report on base-level trainers identified in Air Force Data Dictionary, ADE AE-625. Use the procedures outlined in the appropriate MMIS users manuals.

   4.5.1. Units report the inventory of all groups of trainers even if they are under CLS, TCT, or ATS.

   4.5.2. The basic possession purpose code for all trainers is TJ. Change the possession purpose code of a trainer in pipeline, storage, or modification, according to Air Force Data Dictionary, ADE-AE-630. Use these codes to show the status of the trainer. For example, use BT code if a trainer is:

   • Being made ready for transfer.

   • In transit.

   • Being assembled for operation.

4.5.3. The Air Force unit monitoring trainer modification or trainers provided as either Government-Furnished Property (GFP) or on loan must report the inventory of trainers physically located at the contractor's facilities.

4.5.3.1. The Government plant representative must send a routine message to the responsible reporting unit to let them know that the contractor facility has received or shipped the trainers. Include EQD, nomenclature, serial number, and date the action took place in the message.

4.5.4. The assigned unit reports trainers that are:

- GFP.
- On loan.
- Located at a contractor's facility.
- Located at an Air Force site to support contract training programs.

NOTE:

Report only inventory while it is at a contractor's facility.

4.6. Possession Gain.

4.6.1. Gain trainers, or newly reported trainers, to the Air Force inventory using the "GI" code and input the gain into the appropriate MMIS.

4.6.2. Gain Message (RCS: HAF-LGM(AR)9480, Aerospace Equipment Possession Change Report). Report with a Gain Message as called out in area 2.16.

4.7. Possession Loss.

4.7.1. Lose trainers that you're transferring to another unit on the applicable date and input the loss into the appropriate MMIS.

4.7.2. Loss Message (RCS: HAF-LGM(AR)9480, Aerospace Equipment Possession Change Report). Report with a Loss Message as called out in area 2.17.

4.8. Possession Termination.

4.8.1. Terminate trainers as they occur and input the termination into the appropriate MMIS. Use Air Force Data Dictionary, ADE AE-710, to choose the correct possession purpose code.

4.8.2. Termination Message (RSC: HAF-LGM(AR)9481, Aerospace Equipment Termination Report). Report with a Termination Message as called out in area 2.18.

4.9. Utilization Reporting.

4.9.1. Report utilization data for appropriate active trainers into the MMIS.

EXCEPTION: Don't report utilization on trainers under CLS, TCT, or ATS.

4.9.2. Report utilization on multistation trainers for crew stations only. Use the mission symbols listed in Air Force Data Dictionary, ADE MI-750, to report trainer utilization.

4.9.3. The utilization time may be greater than power-on time.

4.9.4. Report only one type of training for a given time period. When you use the trainer for more than one type of training at a time, report the training that is most important. Report trainer utilization for groups 1 through 3 according to their use as stated by command directives, course control documents, or specified training plans.

4.10. Condition Status Reporting.

4.10.1. Report status changes for appropriate trainers through the MMIS.

EXCEPTION: Don't report status on trainers under CLS, TCT, MTS, RTE, or ATS).

4.10.2. Each trainer is considered fully mission capable during any 24-hour possessed time period, unless reported otherwise.

4.10.3. Report the condition status of trainers using the status codes in attachment 2.

4.11. Audit Requirements.

4.11.1. At base level, the reporting unit must review the on-line audit-error reports and listings and correct the errors on-line within the specified time period.

4.11.2. At command level, the command OPRs must validate trainer data and work with the reporting units to make sure that they correct errors reported in the data system.

Chapter 5

AEROSPACE VEHICLE MOVEMENT REPORTS

5.1. What To Report. Report the movement of aircraft between units and depots or manufacturers

5.2. How to Report. Use the Aerospace Vehicle Movement Report, RCS: HAF-LGM(AR)8003, to report aircraft movements. Attachment 6 gives a sample report, filled out according to the instructions in this chapter. The addressees and information vary depending on the reason for the report. This report is designated emergency status code (ESC) C-1. Continue reporting during emergency conditions, priority precedence. Submit data requirements assigned this category as prescribed or by any means to ensure arrival on published due dates. Use Table 5.1. to assist in the preparation of the report. If information is not required under a column heading, place an X in that column. Column headings and entries are:

- Column 1--AVP. Enter vehicle project.
- Column 2--MDS. Enter Mission Design Series (MDS).
- Column 3--VSN. Vehicle serial number.
- Column 4--EAV. Estimated availability date.
- Column 5--LOC. Present Location (Base name).
- Column 6--PUP. Pickup point (Base name).
- Column 7--DES. Destination/command.
- Column 8--DEP. List serial numbers of vehicles that have departed since the last report.
- Column 9--WDA. List serials numbers of vehicles that will not be available within 2 days of the earlier estimated availability date, including those released to a contractor at production facilities to fill a bailment or test requirement. Give a new estimated availability date and the reason for the delay.
- Column 10--ARR. List serial numbers of vehicles that arrived after the last report.
- Column 11--BAC. Backlog. List serial numbers of vehicles listed as available in column 4 but not departed in column 8 or not reported withdrawn in column 9.
- Column 12--TOD. List total number of vehicles departed to date on the project.
- POC-- Name, grade, and DSN.

Table 5.1. Requirements for RCS: HAF-LGM(AR)8003.

LINE	Type of movement/ reporting activity	AVP	MDS	VSN	EAV	LOC	PUP	DES	DEP	WDA	ARR	BAC	TOD
		Required Entries											
1	AFMC for new production & HQ USAF allocation projects	X	X	X	X				X	X	X		
2	AFMC Thursday Report	X	X	X	X				X	X	X	X	X
3	Movement between overseas & PDM	X	X	X	X	X		X					
4	Movement between PDM & bases	X	X	X	X	X	X	X					
5	Aircraft left at en route bases for maintenance		X	X	X	X		X					

5.3. When and Where to Report.

5.3.1. Send a routine message 14 workdays before departure for vehicles that you will ship or flight-deliver to or from overseas bases.

5.3.2. Send a routine message 7 workdays before departure date for vehicles that you will ship or fly between CONUS locations.

5.3.3. Send a priority message 3 workdays before departure for vehicles that are ready for delivery as last reported.

5.3.4. Send an information copy report to the gaining organization.

5.4. Reporting for New Production Vehicles and HQ USAF Allocation Projects. ALCs, contractor representatives, and officers in charge at vehicle plants and missile site installation checkout offices must send vehicle movement reports.

5.4.1. Number the reports in order, beginning with "01" for each calendar year. Place this number in the title after the RCS. Report each Thursday.

5.5. Reporting Aircraft Movement Between Overseas Bases and Program Depot Maintenance (PDM) Facilities.

5.5.1. The Air Combat Command Air Operations Squadron ACC/AOS, Langley AFB, delivers some aircraft between overseas units and depots or contract facilities in CONUS, for PDM, according to AFI 10-1101, *Operations Security (OPSEC) Instructions*.

5.5.2. Overseas MAJCOMs must report the estimated date that vehicles will be available for delivery to AFMC depots or contract facilities in CONUS to meet the next month's input schedule. Send the

report by the 25th of the month to the ALC specified in T.O. 00-25-115, *Logistics/Maintenance Engineering Management Assignment*.

5.5.2.1. The ALC must verify the CONUS destination and notify the ACC/AOS.

5.5.3. The overseas base must notify the ACC/AOS and the ALC by message as spelled out in paragraph 5.3

5.6. Reporting Aircraft Movement Between PDM Facilities and Bases. After completing PDM or other maintenance, vehicle repair depots and Air Force contract administrators at contract facilities must report the estimated availability date of vehicles.

5.6.1. Submit the reports by message to the unit and MAJCOM AVDO where the vehicle is assigned.

5.6.1.1. For contractors, show the ALC as an information addressee.

5.6.1.2. If the vehicle is assigned to an overseas MAJCOM, send a copy of the report to the ACC/AOS.

5.7. Notice of Delivery Crews' Arrival. The delivery crews must notify the releasing activity by telephone of their estimated time and date of arrival. Include the name, grade, and security clearance of each crew member. Send this notice before the delivery crew leaves for pickup.

5.8. Movement Delays.

5.8.1. Releasing activities must send a follow-up message to the unit responsible for delivery (see AFI 10-1101, *Operations Security (OPSEC) Instructions*) and send an information copy to their MAJCOM if:

- Delivery crews have not arrived within 3 workdays after the reported aircraft availability date.
- The aircraft reported earlier as available will not be available. Report the change immediately by telephone or priority message to the unit responsible for delivery. Follow-up phone calls with a message. Send a new availability date as soon as you have one.

Chapter 6

COMMUNICATIONS-ELECTRONICS (C-E) STATUS AND INVENTORY REPORTING

6.1. Purpose.

6.1.1. The reporting requirements in this section are exempt from licensing in accordance with paragraph 2.11.3 of AFI 37-124, *The Information Collections and Reports Management Program; Controlling Internal, Public, and Interagency Air Force Information Collections*. Base activities enter transactions via CAMS and transmit them to the REMIS on a near real-time basis.

6.1.2. REMIS provides managers with worldwide information and the capability to extract data on in-use Air Force systems. This management information system (MIS):

- Helps managers identify trends and clear up problems.
- Helps in developing replacement systems, spare parts, and equipment modifications.
- Ensures that managers know the status on critical C-E equipment.

6.2. What is Reportable. Report all C-E equipment that is assigned a standard reporting designator (SRD) beginning with 1 through 8, B, C, E, F, J, K, Q, and U, as listed in the CAMS/REMIS SRD Table (TRIC QBC, Program NFSU10). This requirement exists even when bases are undergoing closure, systems will be reported until deactivated or the base is closed.

6.2.1. Report inventory for all equipment assigned an SRD. Exemption from maintenance data collection (MDC) requirements does not exempt the inventory requirement (CAMS reporting level P or Y).

6.2.2. Report status for all equipment (including in-garrison deployable equipment) that is authorized Mission Capability (MICAP) as indicated in the (CAMS reporting level Y).

6.2.2.1. Equipment used for Air Logistics Centers or Central Repair Activities mockups or AETC technical maintenance training is inventory reportable only (CAMS report level T) and reported as inactive.

6.2.2.2. MAJCOM or FOA supplements may require reporting on additional equipment.

6.2.2.3. Change the equipment from active to inactive status as required. Combat Communications, tactical, and stored equipment will be reported as inactive until deployed, started up, etc. (Operating time is calculated from active times as reported on possessed inventory.)

6.2.3. MAJCOMs, FOAs, or higher headquarters determine what mission reporting is required (CAMS reporting level Y). MAJCOM or FOA supplements define specific reporting and non-reporting requirements. See AFM 66-279, volume V, for loading procedures.

6.2.4. You may report local status only on nonreportable equipment or missions, provided that the reporting level is set to local only (CAMS reporting level R).

6.2.5. Report red and amber status of lowest level SRDs and equipment Ids. Do not downgrade status of work unit coded associated equipment if maintenance is not required for higher or lower assemblies. Refer to MAJCOM supplement of mission reporting requirements for associated equipment status reporting.

6.3. Status Definitions.

6.3.1. Green (Fully Mission Capable (FMC): Equipment/system functioning as required in T.O. specifications and capable of supporting its mission requirements.

6.3.2. Amber (Partial Mission Capable (PMC)): System or equipment functioning is such a way that it can perform at least one, but not all, of its missions/functions. (Impaired but usable.) Equipment must be at least amber when you order parts partially mission capable supply.

6.3.3. Red (Not Mission Capable (NMC)): The system or equipment doesn't meet the T.O. specifications; therefore, cannot accomplish its assigned mission or function. Unusable (neither in use nor available for use). The equipment must be red when you order parts not mission capable supply.

6.3.4. Mission status, if used, is defined in a MAJCOM or FOA supplement.

6.4. Security Exemption.

6.4.1. Do not enter classified status, equipment, or locations into unclassified data systems. Report as directed by the maintaining command.

6.4.2. Report AIA Command Mission Equipment (SRD category Q) as directed by AIA.

6.4.3. Report only inventory for COMSEC equipment (SRD category U). (CAMS report level P)

6.5. Responsibilities.

6.5.1. Communications Unit:

- Set up a CAMS Point Of Contact (POC) within the C-E organization to communicate between the unit, CAMS Host Data Base Manager (HDBM) and MAJCOMs or FOAs Data Base Administrators on CAMS/REMIS support issues.

- Provide assistance to the unit on all CAMS related issues IAW AFI 21-116, *Maintenance Management of Communications-Electronics*.

- Accounts for or removes from supply records all reportable equipment end items before reporting them as gains or losses in CAMS.

- Reports status and inventory changes as quickly as possible after each event and processes them in accordance with AFM 66-279, Volume V.

- Checks the REMIS error correction file at the end of each shift and makes necessary corrections according to AFM 66-279, volume V and corresponds with MAJCOM POC on up channel reporting errors.

- Sends any REMIS errors that indicate duplicate serial number problems to the MAJCOM DBA unless otherwise stated in a MAJCOM supplement (see TABLE 6.1).

- Processes the monthly summary report (TRIC SSR, format 1, Program NFS090) monthly to avoid losing the local summary data.

- Requests the NFS5B0 reconciliation program, AFM 66-279, Vol V be run quarterly (in demand type: @START PECLAG054-EL.RUN5B0). The exact date and time must be coordinated with the HDBM and MAJCOM DBA. Contact MAJCOM DBA when non-auto correctable errors are encountered and are beyond your capabilities to fix.

- Sets up contingency procedures to track equipment status while CAMS isn't working (down-time, communications outages, or system errors).
- When CAMS processing capability returns, updates the system on all status changes that occurred during the outage.

NOTE:

The unit and MAJCOM or FOA set up rules for reporting when CAMS is down.

     6.5.2. The CAMS HDBM:

- Transmits C-E inventory, status, and utilization data to REMIS.
- Forwards REMIS error notices to the appropriate unit for correction.
- Provides assistance and training as needed.
- Runs NFS5B0 program when requested.

     6.5.3. MAJCOM/FOA DBAs:

- Give direction and guidance as needed to ensure correct and consistent reporting.
- Maintain the portion of the REMIS organization table for their command.
- Help maintain the Air Force master inventory.
- Help units to correct duplicate serial number problems (see table 6.1.).
- Help units to identify and resolve REMIS error notices.
- Hold monthly reviews of downtime and delay code usage to ensure accuracy, prevent abuse, and identify new codes.
- Monitors the 5B0 transactions as they transfer to REMIS.
- Provides training to MAJCOM equipment managers on the information available in REMIS and how to extract that data themselves.
- Provides data from REMIS for special studies or assessments as requested by MAJCOM equipment managers.

Table 6.1. Codes for the First Two Positions of a Duplicate Serial Number.

AIA	UA-U0
AFMC	FA-F0
AFRES	MA-M0
AFSOC	VA-V0
AETC	JA-J0, KA-K0
AMC	QA-Q0
ACC	SA-S0, TA-T0
ANG	ZA-Z0
AFSPC	CA-C0
PACAF	RA-R0
USAFE	DA-D0

6.5.4. AFMC:

- Ensures that C-E equipment designators are compatible with AFM 66-279 and consistent with MIL-STD 196D.
- Maintains the Air Force master inventory of serial controlled equipment.
- Notifies MAJCOMs and FOAs on changes and deletions to C-E equipment designator records.

6.5.5. AFCA:

- Acts as the Air Force focal point for C-E reporting policy and procedures.
- Helps MAJCOMs to integrate their unique reporting requirements into the Air Force System.
- Annually reviews usage of downtime and delay codes.

6.6. Status Reporting Procedures.

6.6.1. Follow the instructions for TRIC COX, Screen 996, Program NFSJR0 and TRIC EUC, Screen 997, Program NFSJQ0, in AFM 66-279, volume V. Use local time (24-hour clock) for start and stop times.

6.6.2. Unless specified in a MAJCOM supplement, you do not need to report:

- Any outage of less than 5 minutes.
- Frequency changes, crypto reset, or runway change outages that last less than 15 minutes.
- Amber conditions for scheduled maintenance.
- Adjustments or alignments performed during scheduled maintenance.

6.6.3. Use the downtime codes listed in attachment 7 to describe the reason for the outage. See table 6.2 for a summarized breakdown of all downtime codes.

6.6.4. Use the delay codes listed in attachment 8 to describe any maintenance delay that is keeping the equipment from being returned to operational status. See table 6.2 for a summarized breakdown of delay codes.

Table 6.2. Downtime and Delay Code Summary

-Total Downtime Codes:
A, B, C, D, E, F, G, H, I, J, K, L, M, N, O, P, Q, R, S, T, U, V, W, X, Y, Z
--Maintenance Downtime:
A, B, C, D, E, F, I, M, R, U
--Scheduled Maintenance
A, B, C, D, E, I
--Unscheduled Maintenance
F, M, R, U
--Other Downtime:
G, H, J, K, L, N, O, P, Q, S, T, V, W, X, Y, Z
-Total Delay Codes:
A, B, C, D, E, F, G, H, I, J, K, L, M, N, O, P, Q, R, S, T, U, V, W, X, Y, Z
--Maintenance Delay:
A, C, E, S
--Other Delay:
B, D, F, G, H, I, K, O, T, U, V, W, X, Z
--Supply Delay:
J, L, M, N, P, Q, R, Y
---Backorder:
L, M, N
---Local:
J, P, Y
---Other:
Q, R

6.6.5. Use ESR sequence codes to upgrade or downgrade status. Do not change the condition code on the original status unless it was wrong when loaded. Change sequence codes as needed to allow more than 26 delays or comments.

6.6.6. Input the lowest level work unit code (WUC) to identify specific components causing equipment downtime.

6.7. Organization Record.

6.7.1. The CAMS system identifies an organization by number, kind, type, and detachment number. There are two organizational fields; CAMS organization and AFI 21-103.

6.7.1.1. The 21-103 organization is used for up channel reporting to REMIS of status and inventory and follows the "G" Series Special Orders. Notify MAJCOM or FOA DBA before making the change.

6.7.1.2. The CAMS organization is used for local identification. In most cases the CAMS and 21-103 organizations should be the same.

6.7.2. Assign a 4 digit organizational identification (ORG ID) only to actual units, detachments, and OLs. Report equipment and missions at unmanned sites and locations under the organization that has maintenance responsibility. You need not lose and regain the inventory to change the organization record.

6.7.2.1. The first two positions of the ORG ID are the 2 digit command code which is up channel reported to REMIS as a 3 digit command code.

6.7.2.2. The last two positions of the ORG ID are "00" for the basic (parent) unit; for example, use "1C00".

6.7.2.3. For detachments or operating locations (OL), the last two positions of the ORG ID are the detachment number or operating location letter. For example, for Detachment 2, use "1C02"; for OL "A" use "1C0A."

6.7.2.4. For an OL of a detachment, use the detachment and the OL letter; for example, "1C2A".

6.8. Organization Changes.

6.8.1. The MAJCOMs or FOAs must make organization changes in REMIS prior to any 21-103 organization change made in CAMS to avoid up channel reporting errors in CAMS notify your MAJCOM or FOA prior to loading..

6.8.2. Make organization changes in CAMS using TRIC OGT, Program NFSD80.

6.9. Inventory Records. Follow the instructions for TRICs CEL, Program NFSE20 and MCR, Program NFSK60; in AFM 66-279, volume V.

6.9.1. Gain equipment (enter it into the inventory) when your unit accepts maintenance responsibility. Be sure to enter the applicable status (active or inactive).

6.9.2. Lose equipment (place it in "loss status") when your unit no longer has maintenance responsibility.

6.9.3. When adding reportable equipment and missions to the inventory, make sure you have the right data elements and codes. These data elements are important for status and inventory reporting.

6.9.3.1. Equipment Designator: Use the equipment designator as indicated on the CAMS/REMIS SRD Table. The system won't accept equipment designators that differ from the CAMS/REMIS SRD table.

6.9.3.2. Serial Number: Use the actual equipment serial number from the equipment data plate. If the number is longer than six characters, use the last six. If the equipment has no serial number, assign one in accordance with AFMAN 23-110. If you find a duplicate serial number, verify your number and contact your MAJCOM for assistance.

6.9.3.3. Requiring Command: Enter the MAJCOM that the equipment supports. This is the command that is the customer for the equipment. See AFM 66-279, volume I, attachment 1, for a list of command codes.

6.9.4. Report red (NMC) or amber (PMC) capability impact conditions when equipment is in either active or inactive status.

6.9.4.1. Active Equipment: Equipment installed and commissioned to perform an operational mission or requirement. (Does not include cold spares or off-line equipment.)

6.9.4.2. Inactive Equipment: Equipment not commissioned or installed to perform an operational mission or requirement. Includes equipment in storage, tactical and combat communications equipment not deployed, mockups, training equipment, and equipment not being utilized to perform a mission.

Chapter 7

AUTOMATIC TEST EQUIPMENT (ATE) INVENTORY, STATUS, AND UTILIZATION REPORTING

Section 7A—Reporting System Overview

7.1. How and What To Report.

7.1.1. The reporting requirements in this section are exempt from licensing in accordance with paragraph 2.11.3 of AFI 37-124, *The Information Collections and Reports Management Program; Controlling Internal, Public, and Interagency Air Force Information Collections.* Report ATE through the appropriate MMIS. Data is maintained in REMIS.

7.1.2. For the purposes of this instruction, ATE includes:

- Test stations.
- Tester replaceable units (TRUs).

7.1.3. The Precision Measurement Equipment Laboratories only report the inventory and status of ATE systems that are unique to a weapon system and mission-essential systems that don't have manual back-up.

7.2. Basic Reporting Concept.

7.2.1. Each item of ATE is possessed by an Air Force training or maintenance organization (that is, it is organizational, intermediate, or depot-level).

7.2.2. The possessing unit reports:

- Possession and changes in possession.
- Conditions that change the ability of the ATE to do its mission (condition status).
- Configuration.
- Daily utilization.

7.3. Contractor Reporting. For contractor-controlled or maintained equipment, report the inventory, status, utilization, and configuration on ATE Government-furnished equipment (GFE) for contracts initiated after 1 October 1993. The administrative contracting officer sends the needed reports to the agency that asked for them, unless the contract states otherwise.

7.4. The Reporting System. Data is processed at the unit level and at the REMIS processing sites. MAJCOMs, HQ AFMC, HQ USAF, and other authorized users of the REMIS database monitor the data.

7.4.1. Units collect and input the data as shown in the applicable MMIS users manual. Send this data at specified times over the Defense Data Network (DDN) to the REMIS database.

7.4.2. HQ USAF, HQ AFMC, MAJCOMs, and other authorized users may extract reports, data, and information from REMIS to monitor and control ATE inventory, status, and utilization.

7.5. Security Classification. Do not report classified data under this instruction.

Section 7B—Reporting Responsibilities

7.6. Unit-Level Activities. All reporting starts at unit level.

   7.6.1. Maintenance makes sure that ATE inventory, status, and utilization reporting is accurate and timely.

   7.6.2. A maintenance official (usually the ATE section or shop supervisor):

   - Ensures that the unit correctly maintains inventory, maintenance status, utilization, and configuration data.

   - Ensures that the unit reports data on all ATE at their work center (using the procedures in this instruction), including

   - Initial station or equipment inventory or changes.

   - Initial TRU inventory or changes.

   - Station or equipment status changes.

   - Station or equipment utilization time

   - Checks the error file daily and corrects all ATE errors with help from the unit or host database manager (DBM) as needed.

   - Works with MAJCOMs, ALCs, or contractor field teams to verify inventory, status, and utilization reporting.

   7.6.3. Units without access to an automated MMIS work with their command headquarters to determine alternative procedures.

7.7. MAJCOMs:

   - Work with other MAJCOMs, ANG, Air Force Reserve, and non-USAF organizations to move, ship, or transfer ATE and send applicable movement reports.

   - Make sure that ATE chosen for transfer meets the desired configuration requirements and is made ready for transfer in accordance with T.O. 00-20-1, *Preventive Maintenance Program* and other transfer inspection requirements, as applicable.

   - Help MAJCOM agencies in pulling ATE inventory, status, and utilization data from the REMIS database.

   - Appoint an ATE POC to their units and send the POC's name to HQ AFMC/LGMM.

7.8. MAJCOM POCs:

   - Check their reporting units to make sure that ATE inventory, status, utilization, and configuration appear in the REMIS database.

   - Make sure that units take action to correct any reporting discrepancy or problem.

   - Work together with the units as stated in paragraph 7.6.1 of this instruction.

Chapter 8

SPACELIFT INVENTORY, STATUS, AND UTILIZATION REPORTING

Section 8A—Spacelift Reporting

8.1. What to Report. The reporting requirements in this section are exempt from licensing in accordance with paragraph 2.11.5 of AFI 37-124, *The Information Collections and Reports Management Program; Controlling Internal, Public, and Interagency Air Force Information Collections.* Each Spacelift wing reports on their spacelift vehicles and equipment through CAMS. The possessing unit reports the inventory and status of those assets. Space Launch Squadron (SLS) maintenance personnel will collect and process the information at base level.

8.2. Reporting Accuracy. Reports specified in this procedure are the basis for justifying and defending AFSPC plans, programs, and the budget. Accurate and timely reporting is critical. Errors in reporting can result in the loss of required funding, manpower authorizations, and supplies.

8.3. Inventory Reporting. Inventory reporting begins with assignment of a spacelift asset to a launch base. Assignment is the allocation of a spacelift system for a specific mission.

8.3.1. Reporting Possession. Possession takes place when the asset arrives at the launch base, and includes assets under contractor control. SLSs must report on assets IAW this instruction and applicable HQ AFSPC Space Instructions.

8.3.2. Possession Gain and Loss Criteria. Possession of an asset changes when the gaining SLS accepts the asset from the losing organization. Systems will be accounted for as long as they are assigned to an Air Force activity under Air Force operational control.

8.4. Status Reporting. Status reporting applies to systems, subsystems, and component modifications, and support general work.

8.4.1. SLS Maintenance personnel will report mission capability status on all systems, subsystems, and components.

8.4.2. All system, subsystem, or component degradation will be reported.

8.4.3. Maintenance status codes will be used to report launch operations capability IAW HQ AFSPC Space Instruction 21-103.

Section 8B—Spacelift Responsibilities

8.5. HQ AFSPC/LGM:

8.5.1. Establish requirements and procedures for reporting inventory and status of Spacelift assets.

8.5.2. Function as the ALC for the following.

- Developing and publishing Spacelift -06 Work Unit Code Manuals.
- Maintaining the Spacelift -06 Work Unit Code Manual database.
- Appoint a HQ AFSPC Spacelift Status Manager (SSM) to manage the reporting process.

8.6. Spacelift Wings (SW):

8.6.1. Appoint a wing level SSM who:.

- Ensures the SLSs appoint a squadron level SSM.
- Acts as the focal point for SLS reporting.
- Consolidates and sends reports as specified in this and supplemental instructions.

8.7. Notification Procedures.   Notification of initial possession, or change in possession will be done IAW paragraph 2.15. Message tailoring will be IAW HQ AFSPC Space Instruction 21-103.

Chapter 9

AIRCRAFT AND MISSILE EQUIPMENT ACCOUNTABILITY PROGRAM

Section 9A—General Information

9.1. What This Program Covers.

9.1.1. The reporting requirements in this section are exempt from licensing in accordance with paragraph 2.11.10 of AFI 37-124, *The Information Collections and Reports Management Program; Controlling Internal, Public, and Interagency Air Force Information Collections.*

9.1.2. The Air Force maintains a program for MAJCOM headquarters and their units to manage and control aircraft and missile assets (those assets listed in the -21 Technical Order [TO]).

9.1.3. The owning MAJCOM headquarters manages these assets.

9.1.4. The unit inspects, maintains, and controls these assets.

9.1.5. MAJCOM headquarters must supplement this instruction in order to guide the units on how to meet command requirements.

9.2. Need for Management and Control Procedures.

9.2.1. The management and control procedures in this instruction allow MAJCOMs and HQ AFMC to control -21 items. MAJCOMs and HQ AFMC need this control to meet normal peacetime operations and to make sure that the Air Force can meet contingency plan reallocations from home to overseas.

9.2.2. MAJCOMS and HQ AFMC must be aware of the total -21 TO inventories to better plan for replacement items and to plan intra-command and inter-command transfers of items.

9.2.3. MAJCOMs must ensure that base-level units account for -21 TO items to meet daily peacetime, war, and mobilization plan requirements.

9.3. Aircraft and Missile Equipment Inventory.

9.3.1. The -21 TO lists all items authorized for each aircraft or missile mission, design, and series (MDS). The manufacturer prepares the -21 TO and reviews or changes it as equipment is modified.

9.3.2. Do not change the -21 TO without MAJCOM and AFMC Program Manager approval.

9.3.3. The -21 TO is divided into three sections covering the three categories of equipment:

- Section I, Maintenance Safety and Protection Equipment (MSPE) used to protect the aircraft or missile from damage or to make it safe for maintenance.
- Section II, Alternate Mission Equipment (AME), used to configure an aircraft or missile for one of its operational missions. It can be installed and removed quickly.
- Section III, Crew and Passenger Support Equipment (CPSE), used for life support and comfort of crew and passengers.

9.3.4. At unit level, automated products usually control inventories, divided into custody accounts. To build these accounts add selected items listed in the -21 TO and command supplements into Tables of Allowance (TA).

9.3.5. Use manual records (AF Form 2691, *Aircraft/Missile Equipment Property Record*) for some items, such as communications security (COMSEC) equipment, prototypes, or specialized equipment too few in number to be listed in automated products (see attachment 9).

9.4. MAJCOM Supplements to -21 TOs and This Instruction.

9.4.1. MAJCOMs supplement weapons system -21 TO to show items that are unique to an MDS and MAJCOM, such as specialized communications, reconnaissance, weapon delivery, and guidance systems.

9.4.2. Include items (other than standard configuration items) that are listed on MESLs in the MAJCOM supplement to the -21 TO if they are not in the basic TO.

   9.4.2.1. List standard configuration items that may be removed for alternate missions in the MAJCOM supplement to the -21 TO as AME. When you treat standard configuration items as AME, the number per aircraft authorized is the largest number that can be installed.

9.5. Equipment Not Included in -21 T.O.s. These items are not included in -21 TOs:

   • Fixed or installed components that are part of the basic vehicle and needed for normal operation.

   • Consumable items other than safety items (such as publications, forms, or relief bags).

   • Maintenance and servicing equipment in the TA or the -4 TO.

9.6. Asset Categories.

9.6.1. The -21 TO lists all assets authorized to an aircraft or missile MDS. Items are defined and coded (using expendability, recoverability, and repairability category [ERRC] codes) as either:

   • Equipment.

   • Reparable items.

   • Expendable items.

   9.6.1.1. The MAJCOMs, AFMC Logistics Centers or Product Centers, or Defense Logistics Agency (DLA) that have management responsibility for the item determine its definition.

9.6.2. The management and control method is different for each category of items.

   9.6.2.1. Mark the "Remarks" column to show the management and control method by item definition.

9.6.3. MAJCOMs and AFMC Centers identify items that are managed and controlled as equipment (ERRC NF/ND).

   9.6.3.1. Mark the -21 TO or the command supplement to show the TA where to list the equipment.

   9.6.3.2. The maintenance activity uses the management and control methods of the Air Force Equipment Management System (AFEMS).

9.6.3.3. The record vehicles are the Custody Account (CA) or Custody Receipt Listing (CRL) and AF Form 601, *Equipment Action Request*.

9.6.4. MAJCOMs or AFMC Centers identify items that are managed and controlled as repairables (ERRC XD and XF).

9.6.4.1. Mark the -21 TO to show that the maintenance activity must manage the asset as a reparable.

9.6.4.2. The maintenance activity uses the management and control methods of the Air Force Recoverable Assembly Management Process (RAMP).

9.6.4.3. Send a Special Purpose Recoverables Authorized to Maintenance (SPRAM) listing to the appropriate workcenter to identify numbers on-hand.

9.6.4.4. The record vehicle is DD Form 1348-1A, *DoD Single Line Item Release/Receipt Document*, or AF Form 2692, *Aircraft/Missile Equipment Transfer, Shipping Listing*.

9.6.5. MAJCOMs, AFMC Centers or DLA identify items that are managed and controlled as expendables (XB3).

9.6.5.1. Mark the -21 T.O. to show that the maintenance activity must manage the items as expendables.

9.6.5.2. As a rule, maintenance does not manage or control these item once they've been issued.

9.6.5.3. Some items defined as expendables may require specific management procedures. For example, maintenance must have the right number of cables on-hand for ejector racks operation. MAJCOMs may choose to manage these items like the end item they are used with.

Section 9B—Responsibilities

9.7. Using Command. Each MAJCOM supplements this instruction or the -21 TO for assigned weapon systems or both, or issues separate command instructions. The using command:

- Sets up an OPR to focus management attention to -21 assets and informs the HQ AFMC/LGMM OPR.

- Sets up a control system to make sure base-level accounting of items is accurate and tailored to unique MAJCOM requirements. Authorized -21 levels must not be greater than the number of assigned aircraft without prior MAJCOM and AFMC approval (refer to paragraph 9.11).

- Works with HQ AFMC/Program Manager (PM) to identify -21 TO items that must be controlled and reported by AFEMS (see AFM 67-1, volume II, part 2, chapter 22) or by SPRAM (AFM 67-1, volume I, part 1, chapter 11).

- Reallocates -21 items within the command.

- Works with program and item managers and gaining commands to reallocate -21 items as part of inter-command aircraft transfer.

- Identifies the base-level organization that will oversee daily asset management and control.

- Works with subordinate units and other MAJCOM headquarters to resolve equipment shortages according to paragraph 9.14 or to locate equipment removed from transient aircraft according to paragraph 9.15.

- Annually reviews -21 TO for asset requirements of assigned weapon systems in coordination with program and item managers and redistributes or adjusts items as appropriate.

9.8. AFMC.

9.8.1. HQ AFMC:

- Fulfills using command responsibilities (paragraph 9.7).
- Develops control procedures for items not intended for -21 TO (such as prototypes under development, test, and evaluation).
- In coordination with the gaining or using command, develops an initial -21 TO for a weapon system based on the PMD, the contractor's proposed AF Form 2692, and proposed -21 TO.

9.8.2. Through program and item managers, uses yearly reviews to:

- Keep -21 TO up-to-date in coordination with MAJCOMs.
- Ensure that equipment listed in aircraft and missile -21 TOs (and the MAJCOM supplements) include all items that MAJCOMs and HQ AFMC must oversee.
- Validate MAJCOM -21 levels and make changes as needed.
- Maintain Air Force oversight of -21 item inventory and locations to help determine necessary replacement buys, war and mobilization planning, and war reserve materiel (WRM) stockage objectives.
- Keep enough stock of listed equipment to fulfill daily requirements and wartime taskings.
- Check that equipment listed in the -4 TO both as basic airframe equipment and as AME (for example, missile launch rails for F-16) is listed as AME in the -21 TO.

9.8.2.1. Program and Item Managers manage inter-command reallocation of items that result from aircraft transfer or changing mission requirements.

9.8.2.2. Program and Item managers give disposition instructions for -21 items that are declared excess as a result of aircraft retirement or mission changes (usually warehoused and stored as WRM until clearly obsolete).

9.8.2.3. Program and Item managers release excess items for sale through Defense Reutilization and Marketing Office (DRMO) channels, when approved by MAJCOMs and HQ USAF (see also paragraph 9.11).

9.9. Base Activities.

9.9.1. Units must set up procedures and assign responsibilities to:

- Provide accurate accounting, oversight, and daily control of items.
- Provide item inventory and location information to MAJCOM headquarters and to system or item managers.

9.9.2. MAJCOMs decide which workcenters have accounting responsibilities for the items listed in the -21 TO.

9.9.3. Base Supply Equipment Management Element is the contact for items controlled under AFEMS and SPRAM.

9.9.4. The workcenter, designated by their MAJCOM, maintains the items inventory (CA/CRL or SPRAM listing or both).

  9.9.4.1. As new items arrive or are transferred, update the inventory listing using AF Forms 601, 2005, *Issue/Turn-In Request*, 2692, or DD Form 1348-1A, depending on how the items were moved (see paragraphs 9.13 through 9.18).

  9.9.4.2. The custodian keeps a record copy of the input documents.

  9.9.4.3. Inventory and reconcile the account upon change of custodian and/or:

  • Host MAJCOM determines if frequency of CA/CRL account is more often.

  • Inventory SPRAM account at least annually.

9.9.5. The -21 Support Function:

• Monitors the movement of -21 items.

• Coordinates the gathering, packing, and shipping of -21 items when aircraft are transferred.

• Notifies the designated workcenter of the number of items to be shipped.

• Reconciles shortages with gaining or losing organizations and sends copies of correspondence to gaining and losing MAJCOM headquarters.

• Forwards AF Form 2692 to PS&D.

Section 9C—Managing -21 Assets

9.10. Transferring Aircraft or Missile -21 Assets.

9.10.1. MAJCOM headquarters must manage the reallocation of aircraft or missile -21 items after transfer decisions have been made.

  9.10.1.1. For intra-command reallocations, the MAJCOM headquarters:

  • Sends the transfer directives to subordinate units.

  • Coordinates the movement.

  • Notifies HQ AFMC program and item managers of item inventory and location information.

  9.10.1.2. For inter-command or inter-theater movement, MAJCOMs coordinate the transfer directives with HQ AFMC as well as with the gaining command.

9.10.2. Transfer directives must:

• Identify the base-level functions that coordinate the preparation, gathering, and shipping of -21 items.

• Identify which items will be transferred aboard the aircraft and which items will be shipped separately.

9.10.3. If an aircraft or missile is transferred to a depot or contractor facility and will return to the same unit, the transferring unit keeps equipment that the depot does not need. Use AF Form 2692 to transfer installed equipment.

9.10.4. If aircraft or missiles are transferred by way of a depot or contractor program, the losing unit ships only the needed equipment and the equipment listed in the transferring directive. The losing unit sends the rest to the gaining unit no later than 30 days before the completion date.

9.10.5. For transfers through Military Assistance Program or donations and sales to agencies outside the Air Force, HQ AFMC decides what equipment to transfer.

9.10.6. All requests to remove assets from AMARC storage code STT (FMS) aircraft are sent to SAF/IA and HQ USAF/XPP with information copy to HQ USAF/ILM.

9.11. Disposing of Excess Assets.

9.11.1. Authorized -21 levels must not be greater than the number of assigned aircraft unless MAJCOM and AFMC approves the excess.

9.11.2. Sometimes the number of -21 items on hand may exceed authorized levels because of aircraft loss, discontinuance of a specific mission, and aircraft retirement.

   9.11.2.1. In these cases, the owning MAJCOM headquarters works with program and item managers to put together disposition instructions.

9.11.3. In the event of aircraft loss, the unit usually carries the -21 items as excess.

   9.11.3.1. MAJCOM headquarters may elect to reallocate these items to another unit, depending on need, or to add them to WRM.

   9.11.3.2. Adjust the inventory to reflect items that were lost with the aircraft, using DD Form 200, *Financial Liability Investigation of Property Loss*.

9.11.4. When the Air Force discontinues a specific mission or combat capability, the owning unit usually warehouses and manages the assets as WRM.

   9.11.4.1. Only HQ USAF/XPP through HQ USAF/XPI issues authorization for aircraft disposition through the DRMO.

9.11.5. When aircraft are retired in other than inviolate (XS) or Security Assistance Program (SAP) (XT) storage, HQ AFMC reallocates items that may be used on other aircraft (for example, racks, adapters, and cargo handling equipment).

9.11.6. When aircraft or missile items are being retired, HQ USAF/XPP will recommend appropriate disposition, such as for spares, training (ground maintenance/ABDR), and AF Museum.

9.12. Increasing Authorized Levels.

9.12.1. Unit-level requirements above the number of assigned aircraft are approved only after:

   * The MAJCOM headquarters OPR approves the unit-level request.
   * The Program manager agrees with the MAJCOM request.
   * A source for the item has been identified (MAJCOM redistribution, WRM, or other source).

9.12.2. Items sourced from WRM require HQ USAF/ILSP/ILMY approval.

9.12.3. MAJCOM funded items (such as missile launchers) require no further approval. Units must identify funds (from either AFMC or MAJCOM) and get the approval of the appropriate program and Funds Programs Manager for all other shortfalls requiring funding.

9.12.4. The program manager approves the requirements after these criteria have been met.

9.12.5. Refer unresolved disagreements to HQ AFMC/XRW/LGS for resolution.

9.13. Arrival of New Equipment.

9.13.1. MAJCOM headquarters puts together and sends out to gaining units directives that specify:

- Which base level organization controls the various -21 items.
- Which account system (AFEMS, RAMP, SPRAM) to use.
- Which expendable items the unit must manage and control.

9.13.1.1. Coordinate these directives with the contractor, the losing command, or HQ AFMC so that the shipper knows the correct address and "mark for" information.

9.13.1.2. List all items that are installed on, delivered with, or carried onboard the aircraft or missile on AF Form 2692.

9.13.1.3. In all cases, the total amount of -21 equipment must equal the PMD requirements for the weapon system.

9.13.1.4. List any assets that are delivered separately on DD Form 1149 or DD Form 1348-1A.

9.13.2. The designated workcenter works with base supply (equipment management or materiel management) to load the authorized quantities into the account system. As new equipment arrives, use the shipping document (AF Form 2692, DD Form 1149, or DD Form 1348, *DoD Single Line Item Requisition System Document*) as the input and record copies to adjust the on-hand quantities.

9.13.3. Wing PS&D must tell the applicable maintenance organizations and the life support function when the aircraft is to arrive so they can meet the aircraft and to inventory the items.

9.13.3.1. Designated workcenters (if appropriate) remove and store items and update on-hand quantities.

9.14. Adjusting for Shortages.

9.14.1. Shortages found during acceptance inventories: will be identified to the losing unit (or SPD for new weapon systems) within 24 hours. Send a copy of the notification to MAJCOM headquarters.

9.14.2. MAJCOM headquarters must resolve shortages that cannot be corrected quickly. If no accountable individual can be identified for shortages found during acceptance inventories, handle them according to AFM 67-1, volume I, part 1, and volume IV, part 1. Handle accountability for equipment lost during flight, damaged, or destroyed according to AFM 67-1, volume 1, part 1.

9.15. Removing Assets From Transient Aircraft.

9.15.1. List equipment removed and not replaced on AF Form 1297, *Temporary Issue Receipt*. A designated representative of the transient activity completes and signs this form in three copies and :

- Mails one copy to the PS&D section or equivalent at home station.
- Keeps one copy and places one copy in AFTO Form 781 series binder before the aircraft leaves.

9.15.2. The LG, or equivalent of the base where the aircraft is transient ensures that the removed equipment is returned to the owning base within 30 days.

9.15.2.1. Send the transportation control number (TCN) to the owning unit as soon as it is known.

9.15.2.2. If the inventory is not correct, the owning unit takes action according to procedures in paragraph 9.14.

9.16. Managing Deployed Assets.

9.16.1. The owning MAJCOM and the deployed unit retain accountability for -21 items that are deployed for exercises and contingencies. MAJCOM headquarters must review base mobility plans and supported OPLANs at least once a year and when taskings change, to make sure that equipment lists include the proper numbers and types of -21 items.

9.16.2. MAJCOM headquarters must make sure that deploying units identify:

- Items that are deployed on or with the aircraft or missile.
- Items that are sent through normal transportation channels.
- Items that are deployed by dedicated support aircraft.
- The account system (automated or manual) used to control assets.
- The function or individual who is responsible for controlling items.
- Any -21 shortages or authorization changes identified during contingencies.

NOTE:

Identify shortages or authorization changes to the deployed combat Headquarters LG for prioritization and resolution.

9.17. Transferring Assets.

9.17.1. The PS&D or equivalent is the focal point for transferring aircraft, missiles, and associated assets. This office must notify the maintenance squadrons and the life support function of the transfer date.

9.17.2. Each accountable workcenter prepares items for transfer.

9.17.2.1. If shipping the item on or with the aircraft or missile, list it on AF Form 2692. See attachment 10 for instructions on filling out this form.

9.17.2.2. If shipping the item separately, list it on AF Form 60l, DD Form 1149, or DD Form 1348-1A. Use one copy of the form to adjust inventory records.

9.17.3. The -21 Support Function or equivalent compiles this information and prepares a "master" AF Form 2692 for all items to be transferred on or with the aircraft or missile. Then the -21 Support Function or equivalent prepares a listing of other items to be transferred (including date, mode of shipment, and transportation control numbers) and sends it to the gaining organization. Send copies of these lists to MAJCOM headquarters.

9.18. Changing the Accountable Individual.

9.18.1. When you have to change the custodian of a -21 items account, proceed as you would for other types of accounts.

9.18.2. The new account custodian must be eligible according to published MAJCOM directives and must have attended custodian training.

9.18.3. Inventory the account, reconcile differences, and have both individuals sign a statement to the effect that the account is true.

9.19. Forms Prescribed.   AF Form 2691, **Aircraft/Missile Equipment Property Record** and AF Form 2692, **Aircraft/Missile Equipment Transfer/Shipping Listing.**

William P. Hallin,   Lt General, USAF
DCS/Installations & Logistics

Attachment 1

GLOSSARY OF ABBREVIATIONS, ACRONYMS AND TERMS

Abbreviations and Acronyms

ACI—Analytical condition inspection

ACP—Allied communications publication

ADE—Automated data element

ADP—Automatic data processing

AFCA—Air Force Communications Agency

AFDSDC—Air Force Data Systems Design Center

AFEMS—Air Force Equipment Management System

AFI—Air Force Instruction

AFMAN—Air Force Manual

AFMC—Air Force Materiel Command

AFR—Air Force Regulation

AGE—Aerospace Ground Equipment

ALCM—Air Launched Cruise Missile

AMARC—Aerospace Maintenance and Regeneration Center

AME—Alternate Mission Equipment

AMMIS—Aircraft Maintenance Manpower Information System

ASIP—Aircraft Structural Intregity

ATE—Automatic Test Equipment

ATE-MIS—Automatic test equipment - management information system

AVDO—Aerospace Vehicle Distribution Officer

AVP—Aerospace vehicle project

AWM—Awaiting maintenance

AWP—Awaiting parts

BAC—Backlog

BSL—Basic system list

CA—Custody account

CAMS—Core Automated Maintenance System

CDB—Centralized database

CLS—Contractor logistics support

CND—Cannot duplicate

COMSEC—Communications security

CONUS—Continental United States

CPSE—Crew and passenger support equipment

CRL—Custody receipt listing

DDN—Defense Data Network

DEP—Departed

DES—Destination

DLA—Defense Logistics Agency

DoD—Department of Defense

DPI—Data processing installation

DRMO—Defense Reutilization and Marketing Office

EAV—Estimated availability (date)

EDD—Estimated delivery date

ERRC—Expendability, recoverability, and repairabilty category code

FCF—Functional check flight

FMC—Fully mission capable

FMS—Foreign military sales

FOA—Field Operating Agency

FSL—Full system list

FTD—Field training detachment

GFP—Government-furnished property

GMT—Greenwich Mean Time

ICBM—Intercontinental Ballistic Missile

ID—Identification

IM—Inventory manager

IMMP—Improved Maintenance Management Program

INW—In work

ITA—Interface test adapter

JCS—Joint Chiefs of Staff

LOC—Location

LRM—Line replaceable module

LRU—Line replaceable unit

MAAG—Military Assistance Advisory Group

MAJCOM—Major command

MATE—Modular automatic test equipment

MDS—Mission, design, and series

MESL—Minimum essential subsystem list

MMIS—Maintenance Management Information System

MOA—Memorandum of Agreement

MRA—Mission ready available

MSPE—Maintenance safety and protection equipment

MTS—Mobile training sets

NMC—Not mission capable

NMCB—Not mission capable, both (maintenance and supply)

NMCM—Not mission capable, maintenance

NMCS—Not mission capable, supply

NRTS—Not repairable this station

OCR—Office of Collateral Responsibility

OPR—Office of Primary Responsibility

PA—Program Aerospace Vehicles and Flying Hours

PDM—Programmed Depot Maintenance

PEC—Program element code

PEID—Program element identification

PMC—Partial mission capable

PMCM—Partial mission capable, maintenance

PMCS—Partial mission capable, supply

PS&D—Plans, scheduling, and documentation

PUP—Pickup point

RAM—Rapid area maintenance

RAMP—Air Force Recoverable Assembly Management Process

RCN—Reports control number

RCS—Reports control symbol

REMIS—Reliability and Maintainability Information System

RPIE—Real property installed equipment

RTE—Resident training equipment

RTOK—Retest okay

SAP—Security Assistance Program

SIOP—Single integrated operational plan

SLS—Space Launch Squadron

SM—System manager

SOA—Separate operating agency

SPD—System program director

SPRAM—Special purpose recoverables authorized to maintenance

SRAM—Short Range Attack Missile

SRD—Standard reporting designator

SRU—Shop replaceable unit

SSM—Spacelift Status Manager

STEP—Special training equipment program

TA—Table of allowances

TCT—Total contract training

TCTO—Time Compliance Technical Order

TMA—Test module adapter

TMO—Traffic Management Office

TO—Technical order

TPS—Test program set

TRAP—Tanks, racks, adapters, and pylons

TRIC—Transaction identification code

TRU—Tester replaceable unit

VSN—Vehicle serial number

VSND—Vehicle serial number, delayed

WRM—War Reserve Materiel

WUC—Work unit code

Terms

Active Equipment—Equipment installed and commissioned to perform an operational mission or

requirement. (Does not include cold spares or off-line equipment.)

Aerospace Vehicle—Includes all aircraft and selected missiles and drones (ADM, AGM, AQM, BQM, CIM, CQM, LGM, PQM, and RPV).

Aircraft Inventory Categories—Inventory is divided into two distinct and separate areas: assignment and possession. Assignment and possession are further identified by purpose codes. Current approved purpose codes are identified in the Air Force Data Dictionary.

Amber Condition—(Partial Mission Capable (PMC)). System or equipment functioning in such a way that it can perform at least one, but not all, of its missions/functions. (Impaired but usable) Equipment must be at least amber when you order parts partially mission capable supply.

Assignment—Assignment is the allocation of an aircraft by HQ USAF to MAJCOMs for the purpose of carrying out assigned wartime, training, and/or test missions. Specific purpose identifier codes are used for assignment.

Capability Impact Code—A code used to indicate a degraded C-E equipment or mission condition (A-Amber) or nonoperational condition (R-Red). (See the Air Force Data Dictionary for directions to access).

C-E Functional Component Groups—C-E components that are not aligned under end-items or systems and that perform a stand-alone function.

Condition status—A term describing an aerospace vehicle's ability to perform its assigned missions.

Delay Code—An alpha code used to indicate why a piece of C-E equipment has not been returned to an operational status. (See Air Force Data Dictionary for directions to access)

Downtime Code—An alpha code used to indicate why a piece of C-E equipment is not operational. (See Air Force Data Dictionary for directions to access)

Equipment Status Report (ESR) Number—A number reporting an individual downtime event in the C-E Status and Inventory Reporting System. Same as the job control number.

Gain—The assumption of possession and responsibility for an item by a unit.

Green Condition—**(Fully Mission Capable (FMC))** Equipment/system functioning as required in T.O. specifications and capable of supporting its mission requirements.

Host Command—The command providing host base support to the activity maintaining a piece of equipment.

Inactive Equipment—Equipment not commissioned or installed to perform an operational mission or requirement. Includes equipment in storage, tactical and combat communications equipment not deployed, mockups, training equipment, and equipment not being utilized to perform a mission.

Inventory Category Codes—These codes are used in the allocation process and are divided into two categories; assignment and possession.

Loss—The release of possession and responsibility for an item by a unit.

Neutral Flightcrew—A crew not from the gaining or losing commands.

Possession—Possession is the actual acceptance, operational use (utilization), or designation of responsibility for an aircraft. Data collection is described in the appropriate users manual.

Red Condition—(Not Mission Capable - (NMC)). The system or equipment doesn't meet the T.O. specifications; therefore unable to perform any of its assigned missions or functions. Unusable (neither in use nor available for use). The equipment must be Red when you order parts Not Mission Capable Supply.

Requiring Command—The command that has most of the requirements for use of the equipment under consideration.

Termination—The deletion of an aerospace vehicle from the Air Force Inventory because any of these apply:

- It is transferred to a non-Air Force activity.
- It is damaged beyond economical repair.
- It is destroyed.

Trainer—Equipment designed and procured specifically for formal training programs. For this regulation, only trainers listed in Air Force Data Dictionary are reportable.

Attachment 2

MAINTENANCE STATUS CODES AND CONDITION STATUS CODES

NOTE: These codes are reported through the MMIS to REMIS and re available to all REMIS users.

A2.1. FMC - Full Mission Capable. The aircraft is capable of doing all of its assigned missions.

A2.2. PMC- Partial Mission Capable. Material condition of an aircraft or training device indicating that it can perform at least one, but not all of its missions.

A2.2.1. PMCB- Partial Mission Capable Both Maintenance and Supply (Condition Status Code F). The aircraft can do at least one, but not all, of its assigned missions because of maintenance and supply.

A2.2.2. PMCM- Partial Mission Capable Maintenance (Condition Status Code G). Material condition of an aircraft or training device indicating that it can perform at least one, but not all, of its missions because of maintenance requirements existing on the inoperable subsystems(s).

A2.2.3. PMCS- Partial Mission Capable Supply (Condition Status Code H). Material condition of an aircraft or training device indicating that it can perform at least one, but not all of its missions because maintenance required to clear the discrepancy cannot continue due to a supply shortage.

A2.3. NMC - Not Mission Capable. The aircraft can't do any of its assigned missions.

A2.3.1. NMCA- Not Mission Capable Airworthy. The aircraft can't do any of its assigned missions. The aircraft can fly (not restricted from use).

A2.3.2. NMCB - Not Mission Capable Both Maintenance and Supply. The aircraft can't do any of its assigned missions because of maintenance and supply. The aircraft can't fly (restricted from use).

A2.3.2.1. NMCBA- Not Mission Capable Both Maintenance and Supply Airworthy. The aircraft can't do any of its assigned missions because of maintenance and supply. The aircraft can fly (not restricted from use).

A2.3.2.2. NMCBS- Not Mission Capable Both Maintenance and Supply Scheduled (Condition Status Code B) The aircraft can't do any of its assigned missions because of supply and unfinished required inspections or scheduled maintenance. The aircraft can't fly (restricted from use).

A2.3.2.3. NMCBU-Not Mission Capable Both Maintenance and Supply Unscheduled (Condition Status Code A). The aircraft can't do any of its assigned missions because of supply and unfinished repair or reinstallation. The aircraft can't fly (restricted from use).

A2.3.2.4. NMCBSA- Not Mission Capable Both Maintenance and Supply Scheduled Airworthy (Condition Status Code L) The aircraft can't do any of its assigned missions because of supply and unfiinshed required inspections or scheduled maintenance. The aircraft can fly (not restricted from use).

A2.3.2.5. NMCBUA-Not Mission Capable Both Maintenance and Supply Unscheduled Airworthy (Condition Status Code K). The aircraft can't do any of its assigned missions because of supply and unfinished repair or reinstallation. The aircraft can fly (not restricted from use).

A2.3.3. NMCM-Not Mission Capable Maintenance. The aircraft can't do any of its assigned missions because of maintenance. The aircraft can't fly (restricted from use).

A2.3.3.1. NMCMA-Not Mission Capable Maintenance Airworthy. The aircraft can't do any of its assigned missions because of maintenance. The aircraft can fly (not restricted from use).

A2.3.3.2. NMCMS- Not Mission Capable Maintenance Scheduled (Condition Status Code D). The aircraft can't do any of its assigned missions because of unfinished required inspections or scheduled maintenance. The aircraft can't fly (restricted from use).

A2.3.3.3. NMCMU-Not Mission Capable Maintenance Unscheduled (Condition Status Code C). The aircraft can't do any of its assigned missions because of unfinished, unscheduled maintenance. The aircraft can't fly (restricted from use).

A2.3.3.4. NMCMSA-Not Mission Capable Maintenance Scheduled Airworthy (Condition Status Code N). The aircraft can't do any of its assigned missions because of unfinished required inspections or scheduled maintenance. The aircraft can fly (not restricted from use).

A2.3.3.5. NMCMUA-Not Mission Capable Maintenance Unscheduled Airworthy (Condition Status Code M). The aircraft can't do any of its assigned missions because of unfinished, unscheduled maintenance. The aircraft can fly (not restricted from use).

A2.3.4. NMCS-Not Mission Capable Supply (Condition Status Code E). The aircraft can't do any of its assigned missions because of supply. The aircraft can't fly (restricted from use).

A2.3.4.1. NMCSA-Not Mission Capable Supply Airworthy (Condition Status Code P). The aircraft can't do any of its assigned missions because of supply. The aircraft can fly (not restricted from use).

A2.4. TNMC - Total Not Mission Capable. NMCS, NMCSA, NMCMU, NMCMS, NMCMUA, NMCMSA, NMCBS, NMCBU, NMCBUA, and NMCBSA added together equal TNMC. The aircraft can't do any of its assigned missions. Same as NMC.

A2.4.1. TNMCS - Total Not Mission Capable Supply. NMCS, NMCBU, NMCBS, NMCSA, NMCBUA and NMCBSA added together equal TNMCS. The aircraft can't do any of its assigned missions because of supply.

A2.4.2. TNMCM - Total Not Mission Capable Maintenance. NMCMU, NMCMS, NMCBU, NMCBS, NMCMUA, NMCMSA, NMCBUA, and NMCBSA added together equal TNMCM. The aircraft can't do any of its assigned missions because of maintenance.

A2.4.3. TPMCS - Total Partial Mission Capable Supply. PMCS and PMCB added together equal TPMCS. The aircraft can do at least one, but not all, of its assigned missions because of supply.

A2.4.4. TPMCM - Total Partial Mission Capable Maintenance. PMCM and PMCB added together equal TPMCM. The aircraft can do at least one, but not all, of its assigned missions because of maintenance.

A2.4.5. TNMCA - Total Not Mission Capable Airworthy. NMCBA, NMCMA, NMCSA, NMCBUA, and NMCBSA, NMCMUA, and NMCMSA added together equal TNMCA.   Same as NMCA.

A2.4.6. Total Flyable (TF) FMC, PMC and NMCA added together equal TF. The aircraft can fly.

Attachment 3

STANDARD MESL MISSION CODES

AAC - Air to Air Conventional

ACP - Airborne Command and Control (Command Post)

ACT - Airborne Command and Control (Tactical)

ACW - Airborne Command and Control (Early Warning)

ADC - Air Defense, Conventional

ADD - Air Defense, Dual

ADN - Air Defense, Nuclear

ALA - Airlift, Airland

ALE - Airlift, Evacuation

ALT - Airlift, Tactical

AMN - Administrative Support

AR - Air Refueling

ASC - Air to Surface, Conventional

ASD - Air to Surface, Dual

ASN - Air to Surface, Nuclear

ASY - Air Superiority

BFT - Basic Flying Training

CAS - Close Air Support

DSP - Defense Suppression

EC - Electronic Countermeasures

FAC - Forward Air Control

FC - Facility Checking

MSP - Missile Site Support

NT - Navigation Training

RS - Reconnaissance, Strategic

RT - Reconnaissance, Tactical

SAR - Search and Rescue

SAY - Surface to Air Recovery

SO - Special Operations

SOA - Special Operations, Airland

SOD - Special Operations, Airdrop

TR - Transition

TT - Tactical Training

WAS - Weather, Air Sampling

WR - Weather, Reconnaissance

Attachment 4

REFERENCES FOR CODES USED IN AIRCRAFT REPORTING

Serial Number. AFMAN 23-110, Vol 2

Mission, Design, and Series (MDS). Air Force Data Dictionary

Aircraft Configuration Identifier. Air Force Data Dictionary

Organization. Air Force Data Dictionary

Command. Air Force Data Dictionary

Station Location Code. Air Force Data Dictionary

Possessed Purpose Code. Air Force Data Dictionary

Local time of Change. Air Force Data Dictionary

Type Action.
   • Gain-- Air Force Data Dictionary
   • Loss-- Air Force Data Dictionary
   • Termination-- Air Force Data Dictionary

Date:
   • Year.   Air Force Data Dictionary
   • Consecutive julian day (self-explanatory).

Command of Assignment.   Air Force Data Dictionary

Assignment Purpose Code.   Air Force Data Dictionary.

Program Element Code.   Air Force Data Dictionary

Attachment 5

SAMPLE MOVEMENT REPORT

UNCLASSIFIED

01 01 xxxxxxZ OCT 96 RR RR UUUULGMW

FROM: SM-ALC MCCLELLAN AFB CA//LABR//

TO: HQ AFMC WRIGHT PATTERSON AFB OH//LGM-AVDO//

INFO: (GAINING COMMAND/LOSING COMMAND AS APPLICABLE)

UNCLAS

SUBJ: AEROSPACE VEHICLE MOVEMENT REPORT RCS: HAF-LGM(AR)8003, REPORT NO. 01

AVPMDSVSNEAVLOCPUP

ACC5F61B-52H60-0000401 FEBXX

60-00005629JANXX

60-0000445 FEBXX

60-00005530 JANMINOT AFBX

60-00004710 JANXX

ACC5F61F-4D65-1249629 JANXMCCLELLAN AFB

65-1248010 FEBXX

DESDEPWDAARRBACTOD

X60-000028X60-000043XX

X60-00005860-000035

X60-000031

X65-1224265-1222565-12444XX

X65-1262365-12352

65-1234665-12278

65-12472

POC (NAME, GRADE, AUTOVON)

PATRICIA A. SHEPPARD, LABR

71431, 18 OCT 96

UNCLASSIFIED

Attachment 6

DOWNTIME CODES FOR C-E EQUIPMENT

NOTE: The codes listed here give the reasons for C-E equipment downtime, for use in reporting status and inventory. See chapter 6 of this instruction.

A6.1. A - Retrofit or Modification. Use when you need to remove an active equipment item from its assigned mission for the field or depot to perform a modification such as a TCTO, Class I modification, or antenna change out. State the TCTO number, modification performed, antenna replaced, and performing activity in a comment.

A6.2. B - Depot Maintenance Scheduled. Use for scheduled Air Logistics Center (ALC) overhaul, radome painting, and other such operations. Includes scheduled maintenance done by engineering installation (EI) units, centralized repair activities (CRA), mobile depot maintenance (MDM) teams, and contractors. State the type of maintenance and performing activity in a comment.

A6.3. C - Test (Orientation or Other). Use for all scheduled tests or evaluations except preventive maintenance inspections (PMIs). Use downtime code "F" for deficiencies discovered as a result of the test. Indicate the type of test or evaluation in a comment.

A6.4. D - Reserved for (Scheduled Maintenance).

A6.5. E - Preventive Maintenance. Use when the C-E equipment or channel is red or amber in its assigned mission because of scheduled PMIs required by Air Force, MAJCOM, or FOA directives. For deferred or incomplete PMIs, see downtime code "V". For discrepancies discovered during a PMI use downtime code "M". Comments are not required.

A6.6. F - Failed Flight Check or Operational Systems Check. Use to record the time active equipment is not capable of performing its assigned mission due to inability to pass flight inspection or periodic operational system checks. Also for all JCNs opened as a result of deficiencies discovered during test, orientation, or other procedure (downtime code "C"). Enter the work unit code of the failed component.

A6.7. G - Vehicle Out of Commission. Use when a vehicle that is an integral part of a C-E system is out of commission.

A6.8. H - Host Base Action.   Use for reasons such as runway construction, building repair, and snow removal. State the specific action in a comment.

A6.9. I - Scheduled Maintenance. Use for scheduled maintenance not covered by other downtime codes. Add a comment to state the type of scheduled maintenance.

A6.10. J - Damage or Deterioration. Use for uncontrollable equipment damage caused by events other than weather or jamming (downtime codes "W" or "X"), such as natural disasters, vandalism, or riot. State the type and cause of the damage in a comment.

A6.11. K - Relocating/Resiting. Use for relocating or resiting of equipment for any reason except deployment and for runway changes of longer than 15 minutes. Describe the circumstances in a comment.

A6.12. L - Associated Equipment Malfunction. Use when associated or ancillary equipment that is not work-unit coded under the reportable equipment causes downtime. Does not apply to generators, air conditioners, or cables (see downtime codes "N", "P", and "Q"). Do not report circuit or distant end outages. Identify the equipment causing the outage in a comment.

A6.13. M - Equipment Malfunction. Use for equipment or component failure. Applies to components and equipment listed in the work-unit code manual for reportable equipment. Enter the work-unit code of the failed component. Add a brief description of the problem in a comment.

A6.14. N - Power Failure. Use when downtime occurs due to loss of commercial, local, or backup power. Includes downtime due to unstable power and any recovery time.

A6.15. O - Scheduled Software Maintenance. Use for scheduled downtime for software change, maintenance, or testing.

A6.16. P - Environmental Control. Use for failure of temperature, humidity, and dust control equipment (air conditioning) that is not part of the end item.

A6.17. Q - Cable Out. Use for downtime due to defective or cut cable. For a cable cut, use comments to describe the incident.

A6.18. R - Emergency Maintenance. Use when equipment doesn't meet technical order standards and you need to request outside assistance. Use a delay code until maintenance is actually being performed. Enter the WUC of the affected component or sub-system. State the type of assistance required in a comment.

A6.19. S - Software/Program Errors. Use when the equipment is down due to error in the operational program (software or firmware). Use this code only after you're sure that deficiencies in the operational program are causing the problem.

A6.20. T - Training. Use for downtime due to on-the-job training as approved by the Chief of Maintenance, Systems Flight Commander, or equivalent representative.

A6.21. U - Unknown. Use for initial reporting of suspected equipment failure or malfunction. Change to a more specific code when you determine the nature of the outage. Use this code also for equipment failure or malfunctions that you can't duplicate or clear while checking. Add comments to describe the reported symptoms or events. WUC is not required for this code.

A6.22. V - Military Priority. Use when equipment must be shut down due to safety hazard, interference with other equipment, or direction from higher headquarters. Does not apply to jamming (see downtime code "X"). Also, use for red or amber conditions that result from a deferred or incomplete PMI. Add comments to cite the authority for the outage.

A6.23. W - Atmospheric Disturbance or Weather. Use for downtime caused by severe weather or atmospheric conditions, such as anomalous propagation, high winds, heavy snow, or icing. Indicate the specific type of disturbance or weather condition in a comment.

A6.24. X - Jamming - Intentional/Unintentional. Use for downtime due to interfering electrical signals. Report only unclassified information in the comments.

A6.25. Y - Personnel Error. Use for downtime caused by operator error, such as incorrect switch or button activation or failure to follow established operations or maintenance procedures. Explain the error in a comment.

A6.26. Z - Frequency Change. Use for downtime due to a frequency change of more than 15 minutes.

Attachment 7

DELAY CODES FOR C-E EQUIPMENT

A7.1. A - Single Shift Maintenance. Use when equipment or channel has malfunctioned and personnel are not available to correct the problem. Stops when on-call technicians arrive or the next duty day begins. Does not apply when the maintenance function is staffed for 24-hour operation.

A7.2. B - Awaiting Flight Check. Use when an official flight check has been requested. Stops when an official certification flight check starts (see delay code "F"). Indicate the date and time of the scheduled flight check in a comment.

A7.3. C - Awaiting Technical Assistance from MAJCOM or FOA, AFMC, AFC SC, or Contractor. Used when you've requested technical assistance from an activity. Stops when the assistance arrives at the site. Indicate the type of assistance in a comment.

A7.4. D - Lack of Funds. Use when you lack organizational funds to order parts.

A7.5. E - Shift Change. Use when work stops due to shift changes that exceed 30 minutes.

A7.6. F - Flight Check. Use to record the time required to perform an official certification flight check.

A7.7. G - Awaiting System Check. Use when awaiting quality control check, post-deployment inspection, or initial checkout (other than a flight check). Use to report a delay for a systems check by other than maintenance. Indicate the type of system check required in a comment.

A7.8. H - Parts Awaiting Transportation. Use when parts are awaiting transportation from maintenance control or are enroute to a remote maintenance detachment or location.

A7.9. I - Parts Research. Use when work stops due to research exceeding 30 minutes.

A7.10. J - Supply Processing. Use for on-base supply processing time. Starts when the work center or maintenance control logs in the requisition to the standard base supply system (SBSS) and stops when supply issues the parts or SBSS notifies maintenance control or the unit representative that the base doesn't have the parts. Also use this code when components are in the Reparable Processing Center and are needed to clear an equipment malfunction.

A7.11. K - Off-Site Maintenance. Use when a part goes to off-base maintenance activities for repair or fabrication . Also use this code when an activity other than the owning or using activity repairs or fabricates equipment on-base. Identify the type of repair and activity in a comment.

A7.12. L - Reserved for Backorder Supply.

A7.13. M - Supply, MICAP Backorders. Use when base supply notifies maintenance that they must go to the ALC or lateral for parts identified as MICAP requirements. Stops when the part arrives at base sup-

ply. Indicate in comments the off-base requisition number, NSN or part number, part name, supply status code, estimated shipping date, whether it was ordered NMC or PMC, and whether it went to depot or lateral.

A7.14. N - Supply, Other Backorders. Use when supply notifies maintenance that they must go to the depot or lateral for parts on non-MICAP requirements. Stops when the part arrives at base supply. Indicate in comments the off-base requisition number, NSN or part number, part name, supply status code, estimated shipping date, and whether it went to depot or lateral.

A7.15. O - Host Base Support. Use when you've requested support from an on-base activity, such as civil engineers. Stops when the assistance arrives at the site. Indicate the type of support in a comment.

A7.16. P - Supply, Local Purchase. Use when you obtain parts through local off-base channels. Starts when the condition is declared and stops when the parts arrive at the site. Indicate the part required and source in a comment.

A7.17. Q - Supply, Non-DoD. Use when a non-DoD activity, such as FAA, or a foreign government or military establishment, supplies parts for the equipment. Indicate part number, message or requisition number, and estimated delivery date in a comment.

A7.18. R - Supply, Contractor Support. Use when a contractor supplies the parts for the equipment. Indicate part number, message or requisition number, and estimated delivery date in a comment.

A7.19. S - Skill Not Available. Use when qualified maintenance personnel are not available to perform the required maintenance. Don't use this code when delay code "A" or "C" applies. Indicate in a comment why the required personnel aren't available.

A7.20. T - Travel Time. Use when maintenance delay is caused by travel of longer than 15 minutes between the maintenance organization and remote facility where the malfunction occurred.

A7.21. U - Tools, Test Equipment, and Technical Data Not Available. Use when maintenance doesn't have the tools, test equipment, or technical data needed to perform maintenance. State the tool, test equipment, or publication needed in a comment.

A7.22. V - Military Priority. Use when restoration of equipment to operational status is prevented by a directive of high military priority. Enter the directing authority in the "remarks" section.

A7.23. W - Delay For Weather. Use when you can't restore equipment due to weather conditions. Specify the weather conditions in a comment.

A7.24. X - Awaiting Transportation. Use when maintenance is delayed due to lack of transportation to the maintenance job location for tools, test equipment, technical data, and personnel.

A7.25. Y - Supply, Delivery Time. Use for a significant delay in delivery of parts from base supply to maintenance.

A7.26. Z - Other. Use when you encounter a delay that isn't covered by any other delay code. State the cause of the delay in a comment.

Attachment 8

HOW TO USE AF FORM 2691, AIRCRAFT/MISSILEEQUIPMENT PROPERTY RECORD

A8.1.   Column A. Enter the julian date when the transaction is posted.

A8.2.   Column B. Enter the supply account number followed by the request number from the custodian request log.

A8.3.   Column C. Enter the quantity authorized, calculated by multiplying the quantity authorized by the number of aircraft or missiles.

A8.4.   Column D. Enter the quantity due-in. Make due-in postings from the suspense copy of DD Form 1348-1A. Put a check mark in column D opposite the quantity originally due-in to indicate receipt or partial receipt of the items. *NOTE:* When due-ins are canceled, enter the quantity canceled in column D preceded by the abbreviation "Canx", and adjust the balance in column E.

A8.5.   Column E. Enter the total quantity due-in. This entry represents the total quantity of due-ins recorded in Column D. Bring it up to date as changes occur.

A8.6.   Column F. Enter the quantity received from any source.

A8.7.   Column G. Enter the quantity turned in or transferred.

A8.8.   Column H. Enter the quantity on hand. Enter a zero if there is none on hand. Make changes to this column when you receive, turn in, transfer, or terminate accountability for equipment with relief adjustment documents. Support changes to this column with a source document or relief documents prepared to end accountability for equipment signed out on AF Form 1297.

A8.9.   Column I. Enter data required to show the location. In the next column, enter the quantity at that location. When equipment is signed for on AF Form 1297, enter the quantity in this column.

A8.10.   Block 1. Enter the part number.

A8.11.   Block 2. Optional. Enter the Expendability, Repairability, Recoverability and Category (ERRC) Code or leave blank.

A8.12.   Block 3. When two or more possessed weapons systems are authorized common equipment items in the -21 TO, enter the MDS that applies in this block.

A8.13.   Block 4. These numbers correspond with -21 line numbers.

A8.14.   Block 5. Enter the stock number of the item.

A8.15. Block 6. Enter a descriptive nomenclature to identify the item. If the item is classified, enter the word "Classified" after the nomenclature.

A8.16. Block 7. Enter the unit of issue (for example, "pair," "set," or "each").

A8.17. Block 8. Optional. Enter the unit price or leave blank.

A8.18. Block 9. Enter the weapon system that applies. For equipment common to two or more weapon systems, refer to instructions for block 3. Enter the MDS for the largest number of weapon systems possessed in this block. (For example, if 18 F-16As and 36 F-16Cs are possessed, enter F-16C in this block and F-16A in block 3.)

Attachment 9

HOW TO USE AF FORM 2692, AIRCRAFT/MISSILE EQUIPMENT

Section A9A--Parts of the Form

A9.1. Box 1. Enter the organization title and the address of the activity initiating the transfer.

A9.2. Box 2. Leave blank.

A9.3. Box 3. Enter the MDS.

A9.4. Box 4. Leave blank.

A9.5. Box 5. Enter the organization title of the receiving activity. Also enter this note: "Aircraft/Missile Equipment for (MDS and serial numbers)."

A9.6. Box 6.   Enter the authority for transfer.

A9.7. Box 7. Enter request number from AF Form 126.

   A9.7.1. Column A . Enter the item number (1, 2, 3, and so forth).

   A9.7.2. Column B. Enter stock or part number and nomenclature.

   A9.7.3. Column C. Enter quantity authorized in the -21 TO per aircraft or missile.

   A9.7.4. Column D. Enter the quantity installed or aboard the aircraft.

   A9.7.5. Column E. Enter quantity shipped separately through transportation.

   A9.7.6. Column F. The organization receiving the equipment enters the quantity received.

   A9.7.7. Column G. Enter the reason or authority for shortages, if required (see paragraph 9.14.).

A9.8. Box 8. Signature of official tasked to perform the final verification before the aircraft departs.

A9.9. Box 9. Enter the date of verification.

A9.10. Box 10. Signature of the official tasked to perform the acceptance inventory.

A9.11. Box 11. Enter the date of the acceptance inventory.

A9.12. Box 12. The receiving organization enters the request number from AF Form 126.

NOTE:
After the last entry, the accountable officer preparing the form completes the certification at the bottom of the form.

Section A9B--Steps in Preparing and Processing AF Form 2692

A9.13. Accountable -21 Support Function:
- Prepares five copies of AF Form 2692.
- Keeps copy 5 in suspense file and destroys it when PS&D returns copy one.
- Sends copies 1 through 4 to PS&D.

A9.13.1. -21 Support Function Project Personnel:
- Verify that all equipment authorized in the -21 TO, or all equipment specified in the transfer directive, is listed on AF Form 2692.
- Task the maintenance officers of accountable functions to make an inventory at least 1 day before the scheduled departure of the aircraft. The maintenance officer will:
- Verifies that all equipment on AF Form 2692 is installed or aboard.
- After verifying that the equipment being transferred is installed or aboard, signs all fourcopies.
- Return copy 1 to the accountable function.
- Mail copy 2 to the PS&D of the gaining organization.
- Place copy 3 in the aircraft records binder for the aircraft being transferred.
- Hold copy 4 for 30 days in case the gaining organization needs to resolve discrepancies found during the acceptance inventory.

A9.13.2. Gaining Organization:
- Uses copy 2 or 3 of AF Form 2692 to conduct the acceptance inventory.
- If there are shortages, reviews AFTO 781-series forms to determine if the missing equipment was removed en route.
- If the equipment was removed at an en route base (the transferring organization didn't ship it), requests assistance from their MAJCOM headquarters in resolving the shortage.
- Adjusts AF Forms 2691 to show the equipment that it gained in the transfer.

Attachment 10

HOW TO USE DD FORM 1149, REQUISITION AND INVOICE/SHIPPING DOCUMENT

Section A10A--Parts of the Form

A10.1. Box 1. Enter organization e.g. MAJCOM and base, Defense Plant Representative Office (DPRO), etc., possessing the aircraft..

A10.2. Box 2. Enter HQ AFMC LGM-AVDO, Wright Patterson AFB, OH 45433.

A10.3. Box 3. Enter the name and address of the recipient indicated in the assignment directive.

A10.4. Box 4. Enter Foreign Military Sales (FMS) case designator, grant aid Reports Control Number (RCN), etc., if known.

A10.5. Box 5, 6, ,7 and 8.   Leave blank.

A10.6. Box 9. Enter HQ USAF project number e.g., FMS 9F-35 or MAP9T-47 and the assignment directive number e.g., 79-635.

A10.7. Box 10. If shipment is by airlift or surface, make sure the person shipping the aircraft signs. Otherwise leave blank.

A10.8. Box 11a. Leave blank.

A10.9. Box 11b. Leave blank.

A10.10. Box 12. For shipment by airlift or surface, enter the date of shipment. Otherwise leave blank.

A10.11. Box 13. Indicate airlift or surface. Otherwise leave blank.

A10.12. Box 14.   For shipment by airlift or surface, enter the initial bill of lading or manifest number.

A10.13. Box (a).   Leave blank.

A10.14. Box (b).   Enter MDS and serial number. If being ferried, enter the signature block of the ferry pilot and date of signature.

A10.15. Box (c) - (i). Leave blank.

A10.16. Box 15 - 17.   Leave blank.

A10.17. Box 18. Self-Explanatory. Use is optional.

A10.18. Box 19. Leave blank.

Section A10B--Preparing and Processing DD Form 1149, Requisition and Invoice/Shipping Document

A10.19. Accountable Officer:

- Makes enough copies of DD Form 1149 to complete all steps.
- Sends all copies to the transportation office with the items being shipped.

A10.19.1. Transportation Officer:

- Assigns transportation control numbers (TCN) and signs all copies of DD Form 1149.
- Sends appropriate copies to the gaining traffic management office with the equipment being shipped.
- Returns three copies to the accountable officer.

A10.19.2. Accountable Officer:

- Sends two copies to the PS&D.
- Keeps one copy in suspense.

A10.19.3. Plans & Scheduling and Documentation (PS&D):

- Sends one copy to the PS&D of the gaining unit.
- Holds one copy for 60 Days in case the gaining unit needs help finding the equipment in transportation channels.

Attachment 11

SAMPLE AIRCRAFT GAIN MESSAGE

UNCLASSIFIED

01 01 101331Z JUN 96 PP RR UUUU   ZYUW

   FROM 142 FIG PORTLAND OR//MAMP//

   TO   1OSS LANGLEY AFB VA//OSOS//

   INFO HQ ACC LANGLEY AFB VA//LGQP AVDO//

      HQ AFMC WPAFB OH//LGM-AVDO//

      ANGRC ANDREWS AFB MD//LGM-AVDO//

      9AF SHAW AFB SC//LGMQ//

      WR-ALC ROBINS AFB GA//LBPL//LFOS//

UNCLAS

SUBJ: AFI 21-103, Aerospace Equipment Possession Change Report, HAF-LGM (AR)9480: GAIN.

(1)   (2)   (3) (4) (5)   (6)   (7) (8) (9)

8100000022/961421307(961421507Z)/F015C/ANG/CC/0142FINGP/TQJF/CC/GB/

(10)   (11)   (12)(13)(14)   (15)

MUHJACC/ANG/019755/22 MAY 96/ASSIGNMENT CHANGE/NAME OF AVDO, DSN

SAMPLE AIRCRAFT GAIN MESSAGE (SEE PARAGRAPH 2.16)

INSTRUCTIONS

Addressees:

TO: Losing Organization

INFO: Losing command HQ and intermediate command HQ. Gaining command HQ and intermediate command HQ. Appropriate Air Logistics Center (ALC) System Program Director (SPD) and HQ AFMC/ LGM-AVDO.

 SUBJECT:

AFI 21-103 Aerospace Equipment Possession Change Report, HAF-LGM (AR)9480: GAIN.

Required Information:

1. Serial number of the aircraft.

2. Date of gain (last two digits of year plus consecutive julian day) and local time of change, (followed by date and Zulu time) date and Zulu time of change shown in the loss and gain messages must agree.

3. MDS and configuration identifier (if applicable).

4. Assigned command.

5. Assignment purpose identifier.

6. Gaining organization.

7. Gaining organization station location code.

8. Gaining organization possession purpose identifier.

9. Type action code. (GB for a gain)

10. Losing organization station location code and command.

11. Command gaining aircraft.

12. Airframe hours.

13. Date of next major scheduled inspection due (time/date and type, i.e., phase, periodic, major or minor isochronal, etc.) (MAJCOM option, leave blank if not used).

14. Reason for movement, i.e., assignment change, PDM, ACI, etc.

15. Name and DSN telephone number of AVDO initiating message.

Attachment 12

SAMPLE AIRCRAFT LOSS MESSAGE

UNCLASSIFIED

01 01 101331Z JUN 96 PP RR UUUU   ZYUW

NO

   FROM   1OSS LANGLEY AFB VA//OSOS//

   TO   142 FIG PORTLAND OR//MAMP//

   INFO   HQ ACC LANGLEY AFB VA//LGQP-AVDO//

      HQ AFMC WPAFB OH//LGM-AVDO//

      ANGRC ANDREWS AFB MD//LGM-AVDO//

      9AF SHAW AFB SC//LGMQ//

      WR-ALC ROBINS AFB GA//LBPL//LFOS//

UNCLAS

SUBJ: AFI 21-103 Aerospace Equipment Possession Change Report, HAF-LGM (AR)9480:

LOSS.

(1)   (2)   (3)   (4) (5)   (6)   (7)   (8) (9)

8100000022/961421307(961421507Z)/F015C/ANG/CC/0142FINGP/TQJF/CC/LB/

(10)   (11)   (12) (13)   (14)   (15)

MUHJACC/ANG019755/22 MAY 96/ASSIGNMENT CHANGE/NAME OF AVDO, DSN

SAMPLE AIRCRAFT LOSS MESSAGE (SEE PARAGRAPH 2.17)

INSTRUCTIONS

Addressees:

TO: Gaining organization.

INFO:
- Gaining command HQ and intermediate command HQ.
- Losing command HQ and intermediate command HQ.
- Appropriate ALC system program manager (SPD)
- HQ AFMC//LGM-AVDO//

Subject

AFI 21-103, Aerospace Equipment Possession Change Report, HAF-LGM (AR)9480: LOSS.

Required Information:

1. Serial number of the aircraft.

2. Date of loss (last two digits of year plus julian day) and local time of change (followed by date and Zulu time). Dates and zulu times of change shown in the loss and gain messages must agree.

3. MDS and configuration identifier (if applicable).

4. Assigned command.

5. Assignment purpose identifier.

6. Losing organization.

7. Losing organization station location code.

8. Losing organization possession purpose identifier.

9. Type action code ("LB" for a loss).

10. Gaining organization station location code and command.

11. Command losing aircraft.

12. Airframe hours.

13. Date of next major scheduled inspection due (time/date and type, i.e., phase, periodic, major or minor isochronal, etc.) (MAJCOM option, leave blank if not used.

14. Reason for movement (assignment change, PDM, ACI, and so on).

15. Name and DSN telephone number of AVDO who is initiating the message.

Attachment 13

SAMPLE AIRCRAFT TERMINATION MESSAGE

UNCLASSIFIED

01 01   101331Z   JUN   96   PP   RR   UUUU   ZYUW

NO

FROM 1OSS LANGLEY AFB VA//OSOS//

TO   HQ AFMC WPAFB OH//LGM-AVDO//

INFO   HQ ACC LANGLEY AFB VA//LGQP-AVDO//

HQ AFMC WPAFB OH//LGM-AVDO//

9AF SHAW AFB SC//LGMQ//

WR-ALC ROBINS AFB GA//LBPL//LFOS//

OC-ALC TINKER AFB OK//TISC//

HQ USAF WASH DC//PED//

UNCLAS

SUBJ: AFI 21-103 Aerospace Equipment Termination Report, HAF-LGM(AR)9481.

   (1)   (2)   (3)   (4) (5)   (6)   (7)   (8) (9)

8100000022/961422400(961430300Z)/F015C/ACC/CC/0001FTRWG/MUHJ/CC/T5/

(10)(11)(12)

ACC/ ENGINE SERIAL NUMBERS/NAME AND RANK OF OG/CC

SAMPLE TERMINATION MESSAGE (See paragraph 2-18)

INSTRUCTIONS

Addressees:

 TO: HQ AFMC WRIGHT-PATTERSON AFB OH/ LGM-AVDO

 INFO:
- Possessing and assigned command HQ and, if applicable, intermediate command HQ.
- HQ USAF/PED.
- Appropriate ALC System Program Director (SPD).
- Comprehensive Engine Management System (CEMS) Office, OC-ALC/MMDC
- HQ AFMC/LGM-AVDO//

 SUBJECT:

AFI 21-103, Aerospace Equipment Termination Report, HAF-LGM(AR)9481.

Required information:

1. Serial number of the aircraft.

2. Date of termination (last two digits of year plus consecutive julian day) and local time of change which equals (2400Z).

3. MDS and configuration identifier (if applicable).

4. Assigned command.

5. Assignment purpose identifier.

6. Possessing organization.

7. Possessing organization station location code.

8. Possession purpose identifier.

9. Type termination code for ADN message.

10. Possessing command.

11. Serial number(s) of primary propulsion engine(s) installed on terminated aircraft.

12. Name and rank of Operations Group Commander or designated representative.

Attachment 14

SAMPLE POSSESSION PURPOSE IDENTIFIER CODE CHANGE MESSAGE

CLASSIFIED

01 01   101331Z   JUN   96   PP   RR   UUUU   ZYUW

NO

FROM   1OSS LANGLEY AFB VA//OSOS//

TO   HQ ACC LANGLEY AFB VA//LGQP-AVDO//

INFO   9AF SHAW AFB SC//LGMQ//

HQ AFMC WPAFB OH//LGM-AVDO//

WR-ALC ROBINS AFB GA//LBPL//LFOS//

UNCLAS

SUBJ: AFI 21-103 Aerospace Equipment Possession Purpose Identifier Code Change Report, RCS: HAF-LGM(AR)9482.

    (1)   (2)   (3)   (4)   (5)   (6)   (7)   (8) (9)

8100000022/961421307(961421507Z)/F015C/ACC/CC/0001FTRWG/MUHJ/CC/LF/

(10) (11)   (12)   (13)

BQ/ACC/REMARKS/NAME OF AVDO, DSN

SAMPLE POSSESSION PURPOSE IDENTIFIER CODE CHANGE MESSAGE

(See paragraph 2.19)

INSTRUCTIONS

Addresses:

TO: MAJCOM AVDO/Office symbol

INFO:
- Intermediate command HQ/Office symbol.
- Appropriate ALC System Program Director (SPD).
- HQ AFMC/LGM-AVDO

SUBJECT:

AFI 21-103, Aerospace Equipment Possession Purpose Identifier Code Change Report, RCS: HAF-LGM(AR)9482.

Required Information:

1. Serial number of the aircraft.

2. Date of possession purpose identifier change (last two digits of the year plus consecutive julian day) and local time of change (followed by date and zulu time).

3. MDS and configuration identifier (if applicable).

4. Assigned command.

5. Assignment purpose identifier.

6. Possessing organization.

7. Station location code.

8. Possession purpose identifier from which the aircraft is changing.

9. Type action code ("LF").

10. Possession purpose identifier to which aircraft is changing.

11. Possessing command.

12. Remarks: Reason for change.

13. Name and DSN telephone number of AVDO initiating change and message.

Attachment 15

SAMPLE MDS/CONFIGURATION IDENTIFIER CHANGE

UNCLASSIFIED

01 01   101331Z   JUN   96   PP   RR   UUUU   ZYUW

NO

        FROM 4OSS SEYMOUR JOHNSON AFB NC//OSOS//

    TO   HQ ACC LANGLEY AFB VA//LGQP-AVDO//

    INFO   9AF SHAW AFB SC//LGMQ//

            HQ AFMC WPAFB OH//LGM-AVDO//

            OO-ALC HILL AFB UT//LACS//LAMPB//

UNCLAS

SUBJ: AFI 21-103, Aerospace Equipment MDS/Configuration Identifier Change Report, RCS: HAF-LGM(AR)9483.

   (1)   (2)   (3) (4) (5)   (6)   (7) (8) (9)

8100000022/961421307(961421507Z)/F015E/ACC/CC/0004FTRWG/VKAG/CC/LC/

   (10)   (11)   (12)

F015EP S/ACC/NAME OF AVDO, DSN

SAMPLE OF MDS CONFIGURATION CHANGE MESSAGE (See paragraph 2.20)

INSTRUCTIONS

   Addressees:

   TO: MAJCOM AVDO//OFFICE SYMBOL

   INFO:
   • Intermediate command HQ.
   • HQ AFMC/LGM-AVDO.
   • Appropriate ALC System Program Director (SPD).

SUBJECT:

AFI 21-103, Aerospace Equipment MDS/Configuration Identifier Change Report, RCS:
HAF-LGM(AR)9483.

Required Information:

1. Serial number of the aircraft.

2. Date of change (last two digits of the year plus consecutive julian day) and local time of change (followed by date and zulu time).

3. Old MDS/configuration identifier.

4. Assigned command.

5. Assignment purpose identifier.

6. Possessing organization.

7. Station location code.

8. Possession purpose identifier.

9. Type action code (LC).

10. New MDS/configuration identifier.

11. Possessing command.

12. Name and DSN telephone number of AVDO who is initiating the message.

Attachment 16

IC 98-1 TO AFI 21-103, EQUIPMENT INVENTORY, STATUS, AND UTILIZATION REPORTING

SUMMARY OF REVISIONS

This interim change (IC) 98-1 provides additional guidance for reporting aircraft maintenance status.

2.23.3. Scheduled or unscheduled maintenance stops when you finish maintenance according to applicable technical data using the following criteria:

- When all ground operations checks are complete.
- If in-flight operational checks are required by technical data, maintenance status will stop when all ground checks leading up to the in-flight operational check are completed.
- When you verify that a lack of parts limits the mission.

2.23.3.1. If a Functional Check Flight (FCF) is required IAW T.O. 1-1-300, -6 FCF requirements, or any other applicable technical data, maintenance status will not stop until the FCF is completed.

Attachment 17 (Added-AFMC)

A-10A/OA-10A MINIMUM ESSENTIAL SUBSYSTEMS LIST

A-10A/OA-10A Minimum Essential Subsystems List (MESL)				BSL	
NO.	WUC	SYSTEM/SUBSYSTEM	FSL	DTE	DTS
1	11***	Airframe	X	X	X
2	12***	Cockpit	X	X	X
3	13***	Landing Gear	X	X	X
4	14***	Flight Controls	X	X	X
5	23***	Power Plant	X	X	X
6	24***	Auxiliary Power Plant	X	X	X
7	41***	Air Conditioning/Press/ Anti-Ice	X	X^1	X^1
8	41D/G***	Rain Removal/ Windshield Wash	X		X
9	42***	Electrical System	X	X	X
10	44***	Exterior Lighting	X^2	X^2	X^2
11	44***	Interior Lighting	X	X	X
12	45***	Hydraulic & Pneumatic System	X	X	X
13	46***	Fuel System	X	X	X
14	47***	Oxygen System	X	X	X
15	49***	Miscellaneous Utilities	X	X	X
16	51***	Instruments	X	X	X
17	51K***	Inertial Navigation System	X	X	X
18	52***	Autopilot	X	X^{10}	X
19	55D***	Turbine Engine Monitoring System	X	X	X
20	62***	VHF AM or FM Communications	X	X^8	X
21	63***	UHF Communications	X3	$X^{3,10}$	X^3
22	63AD***	Direction Finder ADF/ARD	X		
23	64***	Intercom	X	X^{10}	X
24	65***	IFF/SIF	X	X	X
25	69***	Miscellaneous Comm	X3	X^{10}	X^3
26	71***	Radio Navigation	X	X	X
27	72***	Radar Navigation Altimeter System	X	X9	X
28	74B***	INS-HUD	X	X	X
29	74C***	Target Ident-Pave Penny	X	X^{10}	X
30	74D***	Gun Camera System	X	X^{10}	X
31	74E/F***	TV Monitor	X	$X^{4,7,10}$	X
32	74G***	Cockpit TV Sensor / AVTR System	X	X^{10}	X
33	74H***	LASTE/INS-HUD	X	X	X
34	75***	Weapons Delivery	X	$X5,^{10}$	X
35	75A***	Gun System	X	X^{10}	X
36	76D***	ALE-40 System	X	$X^{6,10}$	X

37	76E***	ALR-69 System	X	X[10]	X
38	91***	Emergency Equipment	X	X	X
39	97***	Explosive Devices	X	X	X

QUALIFYING NOTES:

1. Manual Mode Only Required.

2. Landing Lights and Strip Lights or Formation Light Required as a Minimum for PMC.

3. Have Quick/Secure voice Capable if Equipped.

4. Required on TGM Equipped Aircraft.

5. Stations 1 or 11 Must be ECM Pod Capable and AIM-9 Capable if Equipped.
    Stations 3,4,6,8 and 9 Must be Capable.

6. Three of the Four 76D Subsystems Must be Operational.

7. Required on TGM Equipped Aircraft for Night Search Capability.

8. UHF or VHF Required; Have Quick/Secure Voice Not Required.

9. Required for Low Level NAV/Weapons Delivery Below 5000 feet.

10. Test Mission Dependent.

Attachment 18 (Added-AFMC)

F-15A/B/C/D MINIMUM ESSENTIAL SUBSYTEMS LIST

F-15A/B/C/D Minimum Essential Subsystems List (MESL)			BSL		
NO.	WUC	SYSTEM/SUBSYSTEM	FSL	DTE (see note 1)	DTS (see note 1)
1	11000	Airframe	X	X	X
2	12000	Cockpit and Fuselage Compartments	X	X	X
3	13000	Landing Gear	X	X	X
4	14000	Flight Controls	X	X	X
5	23000	Turbofan Power Plant	X	X	X
6	24000	Auxiliary Power Plant	X	X	X
7	41000	Air Conditioning/Pressurization	X	X [2]	X [2]
8	42000	Electrical Power Supplement	X	X	X
9	44A00	Exterior Lighting	X [3]	X [4]	X [4]
10	44B00/E	Interior Lighting/Caution Light Panel Assembly	X	X	X
11	45000	Hydraulic System	X	X	X
12	46000	Fuel System	X	X	X
13	47000	Oxygen System	X	X	X
14	49000	Miscellaneous Utilities	X	X	X
15	51000	Instruments	X	X	X
16	52000	Autopilot	X	X [9]	X
17	52A00	Control Augmentation System	X	X	X
18	55000	Malfunction Analysis and Recording	X	X	X
19	55A00/E	Built-in Test Display Group	X	X	X
20	57000	Integrated Guidance and Flight Control System	X	X	X
21	63A00	UHF Communications	X	X [5]	X [5]
22	63B00	Integrated CNI Control Set	X	X	X
23	63C00	Intercommunication System	X [6]	X [6]	X [6]
24	65000	IFF	X	X	X
25	71B00	Direction Finder Group	X	X [9]	X [9]
26	71C00	Instrument Landing Set	X	X	X
27	71F00	Attitude Heading Reference Set	X [8]	X [8]	X [8]
28	71G00	Global Positioning System (EGI)	X [8]	X [8]	X [8]
29	71M00	Inertial Navigation System (RLG)	X	X	X
30	71Q00	Fighter Data Link	X [8]	X [9]	X [9]
31	71Z00	Tactical Air Navigation Set	X	X	X
32	74000	Fire Control System	X	X [9]	X
33	74F/G/H	Radar Set - AN/APG-63/70/63(V)1	X	X [9]	X [9]
34	74K00	HUD Set	X	X	X
35	74L00	Video Tape Recorder System	X	X [9]	X
36	74T00	Joint Helmet Mounted Cueing System	X [8]	X [8]	X [8]

37	75000	Weapons Delivery	X	X ^{7}	X ^{7}
38	75H00	Gun System	X ^{8}	X ^{9}	X ^{8}
39	76A00/B	Radar Warning Receiver ALR-56 (A/C models)	X ^{8}	X ^{9}	X ^{8}
40	76C00	Interface Blanker	X	X ^{9}	X
41	76G00	Electronic Warfare Warning Set (ALQ-128)	X ^{8}	X ^{9}	X ^{8}
42	76H00/M	ALQ-135 Band 1, 2, and 3	X ^{8}	X ^{9}	X ^{8}
43	76K00	Countermeasures Dispenser	X ^{8}		X ^{8}
44	76N00	Fiber Optic Towed Decoy	X ^{8}		X ^{8}
45	91000	Emergency Equipment	X	X ^{9}	X
46	97000	Explosive Devices and Components	X	X ^{9}	X
47		Instrumentation System {ATIS/(Mini-)AATIS}	X ^{8}	X ^{9}	X ^{8}
48		Analog Data Recorder	X ^{8}	X ^{9}	X ^{8}
49		Digital Data Recorder (MARS 2/2E)	X ^{8}	X ^{9}	X ^{9}
50		Telemetry System	X ^{8}	X ^{9}	X ^{9}
51		IRIG Time Set	X ^{8}	X ^{9}	X ^{9}
52		Flight Test Video Recorder	X ^{8}	X ^{9}	X ^{9}
53		TSPI (ARDS, GAINR)	X ^{8}	X ^{9}	X ^{9}

NOTES:

1. Applies to aircraft in assignment code CB, EI and EH.

2. Manual mode only required for PMC.

3. As required by AFI 11-218.

4. Strip lights and landing lights required as a minimum for PMC.

5. HAVE QUICK/Secure Voice test dependent.

6. Applies to B/D models only if both cockpits occupied.

7. Only AIM-7/AIM-9 stations required for test for FMC.

8. If installed.

9. Test dependent. As determined by test director based on mission objectives.

Attachment 19 (Added-AFMC)

F-15E MINIMUM ESSENTIAL SUBSYTEMS LIST

F-15E Minimum Essential Subsystems List (MESL)				BSL	
NO.	WUC	SYSTEM/SUBSYSTEM	FSL	DTE (see note 1)	DTS (see note 1)
1	11000	Airframe	X	X	X
2	12000	Cockpit and Fuselage Compartments	X	X	X
3	13000	Landing Gear	X	X	X
4	14000	Flight Controls	X	X	X
5	23000	Turbofan Power Plant	X	X	X
6	24000	Auxiliary Power Plant	X	X	X
7	41000	Air Conditioning/Pressurization	X	X ^{2}	X ^{2}
8	42000	Electrical Power Supplement	X	X	X
9	44A00	Exterior Lighting	X 3	X ^{4}	X ^{4}
10	44B00/E	Interior Lighting/Caution Light Panel Assembly	X	X	X
11	45000	Hydraulic and Pneumatic Power Supply Systems	X	X	X
12	46000	Fuel System	X 5	X ^{5}	X ^{5}
13	47000	Oxygen System	X	X	X
14	49000	Miscellaneous Utilities	X	X	X
15	51000	Instruments	X	X	X
16	52000	Autopilot	X	X^{12}	X
17	52B00	Automatic Flight Control (Augmentation) Set	X	X	X
18	55000	Malfunction Analysis and Recording	X	X	X
19	55A00	Built-in Test Display Group	X	X	X
20	57000	Integrated Guidance and Flight Control System	X	X	X
21	63A00	UHF Communications	X	X ^{6}	X^6
22	63B00	Integrated CNI Control Set	X	X	X
23	63C00	Intercommunication System	X	X	X
24	65000	IFF	X	X	X
25	71B00	Direction Finder Group	X		X
26	71C00	Instrument Landing System	X	X	X
27	71F00	Attitude Heading Reference Set	X	X	X
28	71G00	Global Positioning System (EGI)	X^{11}	X^{12}	X^{11}
29	71M00	Inertial Navigation System (RLG)	X	X	X
30	71Q00	Fighter Data Link	X	X^{12}	X^{11}
31	71Z00	Tactical Air Navigation Set	X	X	X
32	72A00	CARA AN/APN-232	X	X^{12}	X
33	74G00	Radar Set - AN/APG-70	X	X^{12}	X
34	74K00	HUD Set	X	X	X
35	74L00	Video Tape Recorder System	X	X^{12}	X^{11}
36	74M00	Multipurpose Display System	X ^{7}	X ^{7}	X ^{7}

37	74N00	LANTIRN Targeting Set	X [8]	X [12]	X [8]
38	74P00	LANTIRN Navigation Set	X [8]	X [12]	X [8]
39	74T00	Joint Helmet Mounted Cueing System	X [11]	X [12]	X [11]
40	75000	Weapons Delivery	X [9]	X [10]	X [10]
41	75H00	Gun System	X [11]	X [11, 12]	X [11]
42	76A00/B	Radar Warning Receiver (ALR-56C)	X [11]	X [11, 12]	X [11]
43	76C00	Interface Blanker	X	X[12]	X
44	76G00	Electronic Warfare Warning Set ALQ-128	X [11]	X [11, 12]	X[11]
45	76H00/L/M	ALQ-135 Band 1.5 and 3	X [11]	X [11, 12]	X[11]
46	76N00	Fiber Optic Towed Decoy	X [11]	X [11, 12]	X[11]
47	76K00	Countermeasures Dispenser	X [11]	X [11, 12]	X[11]
48	82A00	Remote Map Reader	X [11]	X [11, 12]	X [11]
49	82B00	Digital Mapping System	X [11]	X [11, 12]	X [11]
50	91000	Emergency Equipment	X	X	X
51	97000	Explosive Devices	X	X	X
52		Instrumentation Sys {ATIS/(Mini-)AATIS}	X [11]	X [12]	X[11]
53		Analog Data Recorder	X [11]	X [12]	X[11]
54		Digital Data Recorder (MARS 2/2E)	X [11]	X [12]	X[11]
55		Telemetry System	X [11]	X [12]	X[11]
56		IRIG Time	X [11]	X [12]	X[11]
57		Flight Test Video	X [11]	X [12]	X[11]
58		TSPI (ARDS, GAINR)	X [11]	X [12]	X[11]

NOTES:

1. Applies to aircraft in assignment code CB, EI and EH.

2. Manual mode only required for PMC.

3. As required by AFI 11-202, Volume 3, and 11-218.

4. Strip lights and landing lights required as a minimum for PMC.

5. Includes Conformal Fuel Tanks if assigned to unit.

6. HAVE QUICK/Secure Voice required if deemed necessary for test objectives. See NOTE 12.

7. Seven multipurpose displays are required.

8. Aircraft systems must be capable of LANTIRN operation to be FMC regardless of pod installation.

9. Eight missile and 15 air-to-ground station capability is required for FMC.

10. Any six missile stations, of which two are LAU-128 capable and eight CFT air-to-ground stations are required for PMC.

11. If installed.

12. Test dependent. As determined by test director based on mission objectives.

Attachment 20 (Added-AFMC)

F-16A/B/C/D MINIMUM ESSENTIAL SUBSYTEMS LIST

F-16A/B/C/D Minimum Essential Subsystems List (MESL)				BSL	
NO.	WUC	SYSTEM/ SUBSYSTEM	FSL	DTE	DTS
1	11000	Airframe	X	X	X
2	12000	Crew Station System	X	X	X
3	13000	Landing Gear System	X	X	X
4	14000	Flight Control System	X	X[1]	X[1]
5	23000	Turbofan Power Plant (PW Engine)	X	X	X
6	24000	Aux Power Plant/JFS	X	X	X
7	27000	Turbofan Power Plant (GE Engine)	X	X	X
8	41000	Environmental Control System	X[2]	X[2]	X[2]
9	42000	Electrical Power Supply	X	X[3]	X[3]
10	44A00	Exterior Lighting	X[4, 14]	X[5, 14, 15]	X[4, 14]
11	44B00/C	Interior Lighting	X	X	X
12	45000	Hydraulic & Pneumatic System	X	X	X
13	46000	Fuel System	X	X	X
14	47000	Oxygen System	X	X[6]	X[6]
15	49A00	Fire Detection System	X	X	X
16	49B00	Overheat Detection System	X	X	X
17	51000	Flight Instruments	X	X[7]	X[7]
18	61000	HF Communications	X	X[16]	X[16]
19	62000	VHF Communications	X[8]	X[16]	X[16]
20	63000	UHF Communications	X[8]	X[15, 16]	X[15, 16]
21	64000	Interphone System	X	X[9]	X
22	65000	IFF	X	X	X
23	69AD0	Improved Data Modem (IDM) /Situation Awareness Data Link (SADL)	X[11]	X[16]	X[11]
24	71000	Radio Navigation	X	X	X
25	71D00	Global Positioning System (GPS)	X[11]	X[16]	X[11]
26	74000	Fire Control System	X	X[16]	X
27	74G00	Airborne Video System	X[11]	X[16]	X[11]
28	74H00	Data Transfer Unit	X	X[17]	X
29	74L00	Radar Altimeter System	X	X[10]	X
30	74N00	Targeting Pod (GTP) System	X[12]	X[12, 16, 18]	X[12]
31	74P00	Navigation Pod (VP) System	X[12]	X[12, 16, 19]	X[12]
32	74R00	HARM Targeting System (HTS)	X[17]	X[16]	X[17]
33	75000	Weapons Delivery System	X	X[13, 16]	X
34	75A00	Gun System	X	X[16]	X

35	76000	Electronic Counter Measures	X	X[16]	X
36	76B00/C	Radar Warning Receiver	X	X[16]	X
37	76Y00	Chaff/Flare Disp. System	X	X[16]	X
38	91000	Emergency Equipment	X	X	X
39	97000	Explosive Devices and Components	X	X	X

NOTES:

1. Excludes Indicator Override, Leading Edge Flap Indicator and Speed Brake Indicator.

2. Manual mode only required.

3. Excludes External Power System.

4. As required by AFI 11-218.

5. Minimum Navigation/Formation light requirements for PMC include one Anti-Collision, one Anti-Collision and one Position Light per wing, Both Inlet Light and Tail Navigation Light Landing and Taxi

    Lights required as a minimum for PMC.

6. Excludes Quantity Check Switch.

7. Excludes Secondary Instruments and RCP Accelerometer.

8. Have Quick/Secure Voice required if aircraft is equipped.

9. Applies To B/D models only.

10. Required for aircraft performing the LANTIRN mission only.

11. If equipped.

12. Aircraft systems must be capable of LANTIRN operation to be FMC, regardless of Pod operation.

13. For Air-to-Air all four outboard Stations (1, 2, 8, And 9) are required for FMC. Three of four outboard Stations (1, 2, 8, And 9) of which at least two are LAU-129 capable are required for PMC.

    For Air-to-Surface, all four Inboard Stations (3, 4, 6, and 7) are required for FMC/PMC.

14. For NVIS modified aircraft, External Lighting covert function must be operational.

15. As required by AFI 11-218 and AFI 11-202, Vol-3.

16. Test dependent. As determined by test director based on mission objectives.

17. HTS/IAMS only.

18. N/A for Block 10/15/50/52.

19. Block 40/42 only.

Attachment 21 (Added-AFMC)

Y/F-117A MINIMUM ESSENTIAL SUBSYTEMS LIST

Y/F-117A Minimum Essential Subsystems List (MESL)				BSL	
NO.	WUC	SYSTEM/SUBSYSTEM	FSL	DTE	DTS
1	11000	Airframe	X	X	X
2	12000	Cockpit	X	X	X
3	13000	Landing Gear	X	X	X
4	14000	Flight Controls	X	X	X
5	23000	Powerplants	X	X	X
6	24000	Auxiliary Powerplant	X	X	X
7	41000	Air Conditioning/Defrost System	X	X	X
8	42000	Electrical Power Supply	X	X	X
9	44000	Lighting System	X	X[1]	X[1]
10	45000	Hydraulic Power Supply	X	X	X
11	46000	Fuel System	X	X	X
12	47000	Oxygen System	X	X	X
13	49000	Miscellaneous Systems	X	X	X
14	51000	Instruments	X	X	X
15	52000	Autopilot	X	X	X
16	55000	Malfunction Analysis & Recording Equipment	X	X	X
17	57000	Integrated Guidance	X	X	X
18	63000	UHF System	X	X	X
19	64000	Intercom	X	X	X
20	65000	IFF	X	X[2]	X[2]
21	71000	Radio Navigation	X	X[2,3]	X[2,3]
22	73000	Bombing Navigation	X	X[4]	X[4]
23	75000	Weapons Delivery	X	X	X
24	82000	Computer & Data Display	X	X	X
25	91000	Emergency Equipment	X	X	X
26	93000	Drag Chute Equipment	X	X	X
27	97000	Explosive Items	X	X	X
28	98000	Low Observables	X	X[5]	X[5]
29	99000	Special Instrumentation	X	X[6]	X[6]

NOTES:

1. As required by AFI 11-218.

2. Top or bottom antenna must be operational.

3. Left or right antenna must be operational.

4. Test dependent. As determined by test director based on mission objectives.

5. Only areas designated as safety of flight critical.

6. Some instrumentation measurements may affect safety of flight systems when non-powered.

Attachment 22 (Added-AFMC)

AT/T-38A/B/C MINIMUM ESSENTIAL SUBSYTEMS LIST

AT/T-38A/B/C Minimum Essential Subsystems List (MESL)			BSL		
NO.	WUC	SYSTEM/SUBSYSTEM	FSL	DTE	DTS
1	11***	Airframe	X	X	X
2	11***	Windshield/Canopy	X	X	X
3	1152*	Pylon	X $^{(T-38B)}$	X^2	X^1
4	121**	Cockpit and Controls	X	X	X
5	13***	Landing Gear and Brakes	X	X	X
6	14***	Flight controls	X	X	X
7	23***	Turbojet Powerplant/Gearboxes	X	X	X
8	41***	Air Conditioning/Pressurization/Anti-Ice Control	X	X	X
9	42***	Electrical System	X	X	X
10	4411*	Exterior Lights	X^3	X^3	X^3
11	442**	Interior Lights	X^4	X^4	X^4
12	45***	Hydraulic and Pneumatic Power	X	X	X
13	46***	Fuel System	X	X	X
14	47***	Oxygen System	X	X	X
15	49***	Miscellaneous Utilities	X	X^2	X
16	511**	Instruments	X	X	X
17	51111	Accelerometer	X	X^2	X
18	51211	Clock	X	X^2	X
19	513**	Angle of Attack (AOA)	X	X^2	X
20	552**	AVTR	X^5	X^2	X^2
21	55B**	Recording Equipment	X^5	X^2	X^2
22	63B**	UHF Radio, AN/ARC-164	X	X	X
23	64B**	Interphone, AN/AIC-18	X	X	X
24	65A**	IFF	X	X	X
25	65C**	AIMS, AN/APX-64	X	X	X
26	71B**	Instrument Landing System	X	X^2	X^1
27	71Z**	TACAN	X	X^2	X^1
28	742**	Optical Sight	X $^{(T-38B)}$	X^2	X^1
29	75***	Weapon Delivery	X $^{(T-38B)}$	X^2	X^1
30	91***	Emergency/Personnel Equipment	X	X	X
31	97***	Egress System	X	X	X
32		DAS	X^5	X^2	X^5
33		Telemetry System	X^5	X^2	X^5
34		IRIG Time Set	X^5	X^2	X^5
35		Flight Test Video Recorder	X^5	X^2	X^5
36		TSPI	X^5	X^2	X^5

NOTES:

1. IMC or Cross Country sorties require either a TACAN/ILS equipped aircraft, or T-38C (if applicable).

    ACBT sorties require a TACAN aircraft with Gunsight, or T-38C aircraft (if applicable).

    Air-to-Ground sorties require AT-38B with pylon.

2. Test dependent. As determined by test conductor based on mission objectives.

3. Landing and Taxi light portion of the system is required for all flights.

    Restricted to day only if only one beacon operates, both beacons must be operational for night missions.

4. As required by AFI 11-218 and 11-202 V3.

5. If installed.

Attachment 23 (Added-AFMC)

NT-39A/B MINIMUM ESSENTIAL SUBSYTEMS LIST

NT-39 A/B Minimum Essential Subsystems List (MESL)			BSL		
NO.	WUC	SYSTEM/SUBSYSTEM	FSL	DTE	DTS
1	11000	Airframe	X	X	X
2	11***	Windshield/Canopy	X	X	X
3	12100	Cockpit and Controls	X	X	X
4	13000	Landing Gear and Brakes	X	X	X
5	14000	Flight controls	X	X	X
6	14***	Warning Horn and Cutout Switch	X	X	X
7	14***	Stabilizer Trim Control Switches	X^2	X^2	X^2
8	14***	Electric Trim Motor	X	X	X
9	14***	Flap Position Indicators	X	X	X
10	23000	Turbojet Powerplant	X	X	X
11	23***	Pt5 Gauges	X	X	X
12	23***	Tachometer	X^1	X^1	X^1
13	23***	EGT Gauge	X	X	X
14	23***	Fuel Flow Meter	X^1	X^1	X^1
15	23***	Oil Pressure Gauges	X	X	X
16	23***	Low Oil Pressure Warning Light	X	X	X
17	23***	Oil Overheat Caution Lights	X	X	X
18	23***	Fire & Overheat Detection & Extinguishing	X	X	X
19	41000	Air Conditioning/Pressurization/Anti-Ice Control	X	X	X
20	41***	Window Heat	X	X^6	X^6
21	41***	Windshield Wiper System	X	X^7	X^7
22	41***	Air Conditioning Temperature Control	X^3	X^3	X^3
23	41***	Cabin Altitude Gauge	X	X	X
24	41***	Cabin Pressure Warning Light	X		X
25	42000	Electrical System	X	X	X
26	42***	AC Generator System (T-39B)	X	X	X
27	42***	Standby Inverter	X		
28	42***	Main Inverter (T-39A)	X	X	X
29	42***	Generator Failure Light	X	X	X
30	42***	Generator Voltmeter	X	X	X
31	42***	AC Voltmeter	X	X	X
32	42***	Frequency Meter	X	X	X
33	42***	Switched DC Bus	X	X	X
34	44110	Exterior Lights	X		
35	44***	Position Lights	X	X^{10}	X^{10}
36	44***	Strobe Lights	X	X^{11}	X^{11}

37	44***	Landing Lights	X	X[11]	X[11]
38	44***	Taxi Lights	X	X[12]	X[12]
39	44***	Terrain Light	X		X[9]
40	44200	Interior Lights	X		
41	45000	Hydraulic and Pneumatic Power	X	X	X
42	46000	Fuel System	X	X	X
43	46***	Boost Pumps	X	X	X
44	46***	Total Fuel Quantity	X[4]	X[4]	X[4]
45	46***	Fuel Low Pressure Warning Lights	X		
46	46***	Fuel Dump System	X		
47	47000	Oxygen System	X	X	X
48	47***	MA-1 Portable Oxygen Bottles	X	X	X
49	47***	Oxygen Regulators	X	X	X
50	49000	Miscellaneous Utilities	X	X	X
51	49***	Emergency Alarm Bell	X	X[13]	X[13]
52	49***	EEBDs	X	X[8]	X[8]
53	49***	Fire Extinguishers	X	X	X
54	49***	Door Warning Light	14	14	14
55	51100	Flight Instruments	X	X	X
56	51111	Accelerometer	X		
57	51211	Clock	X		
58	513**	Angle of Attack (AOA)	X	X	
59	51***	Mach Indicators	X		
60	51***	Indicated Airspeed Indicators	X	X	X
61	51***	Vertical Velocity	X		
62	51***	Barometric Altimeters	X	X	X
63	51***	Radio Altimeter	X		
64	51***	Outside Air Temperature Gauge	X		
65	51***	Pitot Static Heat	X	X	X
66	51***	ADI	X	X	X
67	55200	AVTR	X	X[9]	X
68	55B00	Recording Equipment	X	X[9]	X
69	63B00	UHF Radio	X	X[8]	X[8]
70	63000	VHF Radio	X	X[9]	X[9]
71	64B00	Interphone	X		
72	65A00	IFF	X	X	X
73	65***	C-Band Beacon	X		
74	71B00	Instrument Landing System	X		X
75	71Z00	TACAN	X		
76	71***	Magnetic Compass	X		X
77	71***	RMI	X		
78	71***	HSI	X	X	X
79	71***	VOR	X		

80	76000	Weather Radar	X	X[9]	X[5]
81	91***	Emergency/Personnel Equipment	X	X	X

NOTES:

1. One may be inoperative after engine start provided all other indicators for affected engine are operating normally.

2. The trim switch must operate for the pilot flying for takeoff.

3. Automatic or manual mode must be operable.

4. Total fuel may be computed manually.

5. Required if thunderstorms or hazardous conditions that can be detected by airborne radar are forecast or exist along route of flight.

6. Pilot and Co-pilot #1 and #2 windows must operate.

7. At least one wiper must be operational for flights into forecast precipitation at arrival or departure base.

8. One of two must be operational.

9. Test dependent. As determined by test director based on mission objectives.

10. Both wingtip lights and one tail light must be operative.

11. One of two must be operational, but consider night visibility.

12. One taxi or terrain light must be operative for night operations.

13. Requires special passenger brief if inoperative.

14. Crew entry and cargo door must be visually verified secured.

Attachment 24 (Added-AFMC)

UH-1N MINIMUM ESSENTIAL SUBSYTEMS LIST

UH-1N Minimum Essential Subsystems List (MESL)				BSL	
NO.	WUC	SYSTEM/SUBSYSTEM	FSL	DTE	DTS
1	12A00	Cargo Suspension System	X		
2	12B00	Litter Kit	X		
3	12C00	Troop Seats	X		
4	12E	Windshield Wiper	X	X	X
5	13210	Ground Handle Wheels	X		
6	22BAE	Fuel Flow Indicator	X	X	X
7	41100	Bleed Air Heat and Ventilation	X		X
8	42310	AC Power Supply	X	X[1]	X[1]
9	42510	Electrical Power Indicator	X	X	X
10	44110	Dome Lights	X		
11	44120	Instrument Panel Lights	X	X[4]	X[4]
12	44130	Instruments Secondary Lights	X	X[4]	X[4]
13	44140	Pedestal Lights	X	X[4]	X[4]
14	44150	Overhead Console Lights	X	X[4]	X[4]
15	44160	Utility Lights	X		
16	44210	Navigation Lights	X	X	X
17	44230	Landing Light	X	X[3]	X[3]
18	44250	Search Light	X	X[3]	X[3]
19	44300	Caution Lights	X	X	X
20	44500	Strobe Lights	X	X	X
21	4611E	Fuel Boost Pump	X	X	X
22	4613C	Fuel Quantity Indicator	X	X[6]	X[6]
23	46300	Auxiliary Fuel System	X	X[6]	X[6]
24	49200	Rescue Hoist	X		
25	49300	Forrest Penetrator	X		
26	49500	Stokes Litter	X		
27	51100	Flight Instruments	X	X[2]	X[2]
28	51120	Pitot Static System	X	X	X
29	51210	Gyro Compass	X	X[2]	X[2]
30	51220	Standby Compass	X	X[6]	X[6]
31	5131A	Free Air Temperature Indicator	X		
32	5131B	Clock	X		
33	62000	VHF Radio	X	X[5]	X[5]
34	63000	UHF Radio	X	X[5]	X[5]
35	64000	Interphone System	X	X	X
36	65000	Identify Friend or Foe (IFF)	X	X[6]	X[6]

46	68000	Global Positioning System	X	X[6]	X[6]
37	71110	UHF/DF	X	X[6]	X[6]
38	71Z00	Tacan	X	X[6]	X[6]
39	71320	VOR/ILS	X	X[6]	X[6]
40	7121Q	Course Indicator	X	X[6]	X[6]
41	71510	Marker Beacon	X	X[6]	X[6]
42	91210	Passenger Alarm	X		
43	9131A	Medical Kit	X	X	X
44	9131B	Cabin Fire Extinguisher	X	X	X
45	9711B	Hoist Guillotine Squib	X		

NOTES:

1. Only one inverter and generator required.

2. Pilot's instruments required.

3. WUCs 44230 and 44250 one or the other required for night missions

4. Required for night missions only.

5. Either UHF or VHF required.

6. Test dependent. As determined by test director based on mission objectives.

Attachment 25 (Added-AFMC)

C-17 MINIMUM ESSENTIAL SUBSYTEMS LIST

C-17 Minimum Essential Subsystems List (MESL)			BSL		
NO.	WUC	SYSTEM/SUBSYSTEM	FSL	DTE	DTS
1	11000	Airframe	X	X	X
2	11ABO	Crew Entry Door Assembly	X	X[5]	X
3	11BJA	Pressure Vent Door Assembly	X	X[6]	X
4	11BKO	Cargo Door Hydraulic System	X	X[7]	X
5	11BLO	Cargo Ramp Hydraulic System	X	X[8]	X
6	12000	Cockpit and Fuselage Compartments	X	X	X
7	12CDE	Logistic Lock Control Panel	X	4	X
8	12RDB	Pilot Seat Inertia Reel Assembly	X	X	X
9	12REB	Copilot Seat Inertia Reel Assembly	X	X	X
10	12RFB	Alternate Crew Member Seat Inertia Reel Assembly	X	X[2]	X
11	12RGB	Loadmaster Seat Inertia Reel Assembly	X	X	X
12	13000	Landing Gear	X	X	X
13	13***	Landing Gear Position Indicators	X	X	X
14	13JCA	Wheel Brakes	X	X	X
15	13JGA	Anti-Skid System	X	X	X
16	13JGA	Anti-Skid Control Unit	X	X	X
17	13KAA	Steering Control Wheel Assembly	X	X	X
18	13KCA	NLG Steering Cylinder	X	X	X
19	13***	Landing Gear Handle Warning Lights	X	X	X
20	14000	Flight Controls	X	X	X
21	14CEB	Actuator, Pitch Autopilot Follow-up	X	X[1]	X
22	14AFA	Actuator, Roll, Autopilot Follow-up	X	X[1]	X
23	14ALO	Aileron, Rudder, Elevator Trim Control Panel Assembly	X	X	X
24	14AFD	Rudder Trim Position Indicator	X	X	X
25	14AFD	Aileron Trim Position Indicator	X	X	X
26	14AFD	Pitch Trim Position Indicator	X	X	X
27	14EEB	Flap Index Position Indicator	X	X	X
28	14EEC	Flap Position Standby Indicator	X	X	X
29	14FGB	Speed Brake Position Indicator	X	X[3]	X
30	14BGC	Rudder Position Sensor	X	X	X
31	23000	Turbofan Propulsion System (F-117-PW1100)	X	X	X
32	23***	Thrust Reversers	X	X	X
33	23***	Thrust Reverser Lights	X	X	X
34	23***	Engine Ignition (A/B)	X	X	X
35	23PAL	Autothrottle Disengage Switch	X		X
36	23PAP	Takeoff/Go Around Switch (TO/GA)	X	X	X

37	23PAB	Autothrottle Actuator	X	X[9]	X
38	23NCO	Engine Fuel Pumps	X	X	X
39	23NEO	Engine Electronic Control (EEC)	X	X[11]	X
40	23NFO	P2/T2 Probes	X	X	X
41	23NJO	EEC Fuel Temperature Probe	X	X[12]	X
42	23NKO	EEC Oil Temperature Probe	X	X[13]	X
43	23NNO	Main Fuel Control	X	X	X
44	23NJO	Fuel Flow Transmitter	X	X	X
45	23RAO	Engine Ignition Exciter	X	X[14]	X
46	23PAO	Throttle Module	X	X	X
47	23YAO	Thrust Reverser Control Valve	X	X[15]	X
48	24AOO	Auxiliary Power Unit	X	X[10]	X
49	41000	Air Conditioning, Cabin Pressurization	X	X	X
50	41BCO	Environmental Control System Panel	X	X	X
51	41ANA	Cargo Compartment Recirculation Fan	X	X	X
52	41ECH	Cabin Pressure Selector Panel	X	X	X
53	41ECA	Cabin Pressure Indicator Panel	X	X[16]	X
54	41AAO	Air Conditioning Pack	X	X[17]	X
55	41BAO	Environmental Control System Controller	X	X	X
56	41GAA	Wing Ice Protection	X		X
57	41GEA	Windshield Ice Protection Controller	X	X[18]	X
58	41GGA	Window Defog Controller	X	X[19]	X
59	41CCE	Precooler Exit Temperature Sensor	X	X	X
60	41CAM	Isolation Valve Pushbutton Switch light	X	X	X
61	41CAN	APU Flow Control Pushbutton Switch light	X	X	X
62	41CAD	Isolation Valve	X	X[20]	X
63	41CAH	APU Check Valve	X		X
64	41CAV	Wing Manifold Pressure Sensor	X	X	X
65	41DAO	Failure Detection Manifold Controller	X	X	X
66	41DCA	Manifold Failure Overheat Sensor Element	X	X	X
67	42000	Electrical System	X	X	X
68	42DDO	60 KVA Generator, IDG	X	X	X
69	42DEO	Generator Control Unit	X	X	X
70	42FBO	Electrical Control Panel	X	X	X
71	42HBO	APU/External Power Control Unit	X	X[21]	X
72	42DJO	AC Crosstie Relay	X	X	X
73	42EAO	60 HZ Converter	X	X[22]	X
74	42ABO	Transformer/Rectifier	X	X[23]	X
75	42BAO	NICAD Battery	X	X	X
76	42GBO	Static Inverter	X	X	X
77	42AAI	DC Bus #1, #2, #3, & #4	X	X	X
78	42AAI	DC Avionics Bus #2 & #3	X	X	X
79	42DAI	Generator Bus #1, #2, #3, #4	X	X	X

80	42DAI	115VAC AC Bus 1, 2, 3, 4	X	X	X
81	42DAI	AC Avionics Bus #2 & #3	X	X	X
82	42GAI	115VAC Emergency Bus	X	X	X
83	42GAI	28VDC Emergency Bus	X	X	X
84	42GAI	AC Transfer Bus	X	X	X
85	42GAI	DC Transfer Bus	X	X	X
86	42ABI	Battery Bus	X	X	X
87	42ABI	Battery Direct Bus	X	X	X
88	44000	Lights, Exterior	X	X[26]	
89	44XAO	Cargo Compartment Fluorescent Light	X	X[24]	X[24]
90	44XBO	Cargo Compartment Incandescent Lamp	X	X[25]	X[25]
91	44CAO	Nose Landing/Taxi Lights	X	X[28]	X[28]
92	44CAO	Taxi Lights	X		
93	44CEO	Non-retractable Fuselage Taxi Light	X	X[27]	X[27]
94	44AAO	Forward Position Wing Tip Light	X	X[29]	X[29]
95	44ABO	Aft Position Wing Tip Light	X	X[29]	X[29]
96	44EEO	Upper and Lower Beacon Light	X	X[30]	X[30]
97	44SSF	Emergency Incandescent Lamps	X	X	X
98	45000	Hydraulic Systems	X	X	X
99	45GAO	Hydraulic Systems Controller	X	X[31]	X[31]
100	45ACO	Hydraulic System Reservoir Assembly	X	X	X
101	45CAO	AC Motor Driven Hydraulic Pump	X		
102	45EAO	Reversible Motor Hydraulic Pump	X		
103	45FAA	Emergency Power Unit Ram Air Turbine	X	X	X
104	46000	Fuel System	X		
105	46JCO	Primary Climb and Dive Valve Assembly	X	X	X
106	46FAB	Transfer/Dump Submerged Fuel Pump	X	X[32]	X[32]
107	46CFA	Ground Refueling Control Panel	X	X	X
108	46EAB	Fuel Boost Submerged Pump	X	X[33]	X[33]
109	46EBA	Fuel System/Engine Start Control Panel	X	X	X
110	46EAQ	Crossfeed Valve Assembly	X	X[34]	X[34]
111	46QES	Fuel Quantity Liquid Level Gage Rod (Dipstick)	X	X[35]	X[35]
112	46QAC	Fuel Quantity Display, Tanks 1, 2, 3, 4	X	X[36]	X[36]
113	46QEC	Fuel Quantity Computer	X	X[37]	X[37]
114	47000	Oxygen System	X	X	X
115	47ACC	Quick Don Oxygen Crew Mask	X	X[38]	X[38]
116	47ACE	Panel Mounted Diluter Demand Oxygen Regulators	X	X[38]	X[38]
117	47ABS	Liquid Oxygen Quantity Indicator	X	X	X
118	47FAO	Liquid Oxygen Auxiliary Converter	X	X	X
119	47BAO	Portable Oxygen Cylinder and Regulator	X	X[38(a)]	X[38(a)]
120	47BBO	Quick Don Portable Oxygen Crew Mask (Cargo Compart)	X	X[39]	X[39]
121	49AJO	Engine Fire Detector Controller	X	X40	X
122	49AND	Accessory Compartment Fire Detection Assembly	X	X40	X

123	49APO	Core Compartment Fire Detection Assembly	X	X[40]	X
124	49JAO	Cargo Comp. FWD LM Station Smoke Detector Panel Ind.	X	X[41]	X
125	49FGO	Crew Rest Opaque Particle Sensor	X		
126	49HGO	Underfloor Opaque Particle Sensor	X	X	X
127	49NHO	LWR Avionics Rack IRU Opaque Particle Sensor	X	X[42]	X
128	49NJO	IRU Rack Opaque Particle Sensor	X	X	X
129	49EAO	Vaporizing Liquid Engine Fire Extinguisher	X	X	X
130	51000	Instruments	X		
131	51AAO	Bearing Distance Heading Indicator (BDHI)	X	X[42]	X
132	51EAO	Standby Magnetic Compass	X	X	X
133	51BAO	Standby Attitude Indicator	X	X[43]	X
134	51CMO	Altimeter-Airspeed Indicator	X	X	X
135	51KAO	Engine Standby Thrust Rating Panel Display	X	X	X
136	51300	TCAS Antenna	X	X[62]	X
137	51300	TCAS Processor	X	X[62]	X
138	55EFO	Control Column Shaker Motor	X	X[45]	X
139	55ECO	Angle of Attack Transmitter	X	X[46]	X
140	55DAO	Signal Acquisition Unit (SAU)	X	X[47]	X
141	55DBO	Crash Survivable Memory Unit Recorder	X	X[47]	X
142	55DJO	Sonar Acoustic Underwater Beacon	X	X[48]	X[48]
143	55BAO	Signal Data Recorder	X	X[47]	X
144	55EAO	Propulsion Computer	X	X[49]	X
145	55JAO	Signals Interface Sensor	X	X	X
146	57000	Navigation System	X	X	X
147	57ACO	Flight Control Computer	X	X	X
148	57APO	Rudder Pedal Force Transducer	X	X	X
149	57ADO	Flight Control System Actuator Panel (FCS AP)	X	X	X
150	57AFO	Automatic Flight Control System Actuator Panel (AFCS AP)	X	X	X
151	57AQO	Autopilot Disengage Switch	X	X[44]	X
152	57CKO	Multifunction Control Panel (MFC)	X	X	X
153	57CCO	Multifunction Display Unit (MFD)	X	X[50]	X
154	57EEO	Pitot Static Probe	X	X	X
155	57EAO	Air Data Computer	X	X	X
156	57EFO	Total Air Temperature Probe	X	X	X
157	57KCO	Head Up Display Unit	X	X[51]	X
158	57GAO	Inertial Reference Unit (IRU)	X	X	X
159	57GCO	IRU Power Supply Battery Unit	X	X	X
160	57MBO	Core Integrated Processor Computer (CIP)	X	X	X
161	57MGO	Mission Computer Display	X	X[52]	X
162	57MJO	Mission Computer Keyboard	X	X	X
163	61APO	HF Receiver/Transmitter	X	X[53]	X
164	62AGO	VHF Receiver/Transmitter	X	X	X
165	62ADO	Signal Data Converter	X	X[54]	X

166	63000	UHF Communications	X		
167	63AFO	Communication Switching Panel	X	X[55]	X
168	63ANO	UHF Communications Receiver/Transmitter	X	X	X
169	63***	UHF/VHF/HF Radios	X	X[56]	X
170	64000	Intercom Group/Interphone System	X		X
171	64DEO	Public Address Control	X	X[57]	X
172	64DCO	Audio Frequency Amplifier	X	X[57(a)]	X
173	64DAO	Public Address Loudspeaker	X	X[58]	X
174	64GOO	Surecomm System Wireless Radio Receiver/Transmitter	X		X
175	64AAO	Intercom Set Control	X	X[59]	X
176	64AFO	Intercomm Station	X	X[60]	X
177	65000	IFF/SIF System	X		
178	65ACO	IFF Transponder	X	X[61]	X
179	66AAO	Emergency Locator Radio Beacon	X	X	X
180	66ACO	Emergency Locator Transmitter Antenna	X	X	X
181	68000	Digital Air Data Recorder	X	X	X
182	68AOO	INMARSAT Aero-I Antenna	X	X[62]	X
183	68AOO	INMARSAT Aero-I Control Panel	X	X[62]	X
184	68AOO	Satellite (SRT-2000) Receiver/Transmitter	X	X[62]	X
185	68AOO	Communication Management Unit	X	X[62]	X
186	68AOO	Aircraft Personality Module	X	X[62]	X
187	69BAO	UHF/VHF ARC-210 Receiver/Transmitter	X	X[63]	X
188	69BCO	UHF ARC-210 Radio Set Control Panel	X	X	X
189	69EAO	Cockpit Voice Recording Set Control	X	X	X
190	69ECO	Cockpit Voice Sound Recorder	X	X	X
191	69EDO	Underwater Acoustic Beacon	X	X[48]	X
192	69AAO	Communications/Navigation Equipment Control	X	X[64]	X
193	69ABO	Communications Control	X	X[64]	X
194	69CAO	Central Aural Warning (CAWS) Computer	X	X	X
195	69DCO	Master Warning and Reset Light Assy Switch	X	X[42]	X
196	69DDO	Master Caution and Reset Light Assy Switch	X	X[42]	X
197	69DAO	Warning and Caution Computer	X	X	X
198	69DBO	Warning and Caution Annunciator Panel	X	X	X
199	71PGO	Precision Landing System Receiver	X	X[65]	X
200	71CAO	Distance Measuring Equipment Receiver/Transmitter	X	X[66]	X
201	71AAO	GPS Antenna	X	X[67]	X
202	71ACO	GPS Antenna Electronics Unit	X	X[67]	X
203	72000	Low Range Radio Altimeter	X		
204	72AGO	Weather Radar Receiver/Transmitter	X	X[68]	X
205	72CCO	Altimeter Radar Transceiver	X	X[69]	X

NOTES:

1. (a) Must not be failed in engaged position (w/o clutch capability. (b) Required if flight phase planned or remaining is 12 hours or more. (c) AP must not be used or planned to be used.

2. Seat with inoperable inertia reel assembly must be unoccupied during takeoff and landing.

3. Required only if MFD(s) is (are) inoperative.

4. Pallet/Platform at position with inop sidewall control panel shall be secured with tie-down chains.

5. Not required for Ferry or Flight Test if door can be secured closed.

6. Seal may be damaged if pressurization can be maintained.

7. (a) Uplock cylinder is not required if door is not to be opened. (b) Required if ballast or cargo is carried.

8. (a) Cargo door must be operational. (b) Required if ballast or cargo is carried.

9. (a) Must not be failed in the engaged position. (b) Required if flight phase remaining is 12 hours or more - if inop, auto-throttle system must be placarded.

10. (a) Short/austere operations may not be initiated without an APU. If APU fails to start after landing, do not shut down all engines unless ground power availability exists. (b) APU required for engine start if ground power and air is not available. APU required for deployment location that does not have ground power and air.

11. Item has primary and secondary channels. One channel of one EEC per Aircraft may be inoperative.

12. One of two must operate.

13. Item has two outputs, one output on one engine may be inoperative.

14. Only one igniter per engine is required.

15. Thrust reversers with inoperative thrust reverser control valves must be locked out in symmetrical pairs. Fully operational actuation system required on all operating reversers.

16. (a) Differential pressure indicator not required if cabin altitude indicator and rate of change indicator are operative. (b) Both required for precision landing and/or wind shear testing.

17. Comply with directive for unpressurized flight mission.

18. Not required in non-icing conditions.

19. Not required if windshield ice protection is operative.

20. Use manual wrenching feature if auto function fails.

21. Austere operations may not be initiated without an APU generator. If APU fails to engage after landing, do not shut down all engines unless ground power availability exists.

22. Required for Flight Test data system power.

23. Short austere airfield operations, 3 of 4 must be operational.

24. Every other light must be operational. Two lamps per fixture.

25. Minimum 17 red and white lights must be operative.

26. Mission specific requirements dictate lights required to be operational.

27. (a) Required for short/austere airfield taxi. (b) If associated nose taxi lights are operative, the side light is not required. (c) Not required for day operations.

28. Required if wing tip landing/taxi lights are inop.

29. One lamp per assembly must operate.

30. (a) One lamp on each unit (either red or white) must be operable. (b) Lower beacon not required for short/ austere airfield landing.

31. If no load required, only one required.

32. (a) For quantity greater than 36,000 pounds in tanks #2 and #3 transfer pumps must be operative. (b) One per wing operative, tank with inoperative pump must have one boost pump and all crossfeed valves must be operational.

33. (a) One may be inop per tank with associated transfer pump and crossfeed valve operating normally.

(b) One tank per wing may have inoperative pump.

34. Both boost pumps in associated tank must be operative to fly with inoperative crossfeed.

35. Required if total fuel indicator or fuel quantity displays (one or more digital displays) are inoperative.

36. Required if total fuel indicator is inoperative and dipstick is not available.

37. Either channel A or channel B must be operative.

38. (a) Must be operable at each occupied station. (b) Minimum 4 (P, CP, FTE, & LM).

39. Required for on-board passengers.

40. Only one loop A or loop B light/detector assembly for one engine may be inoperative.

41. Overhead smoke detector panel must be operational.

42. Only one is required.

43. (a) Pilots attitude indicator must be operative. (b) Pilots flying air refueling/IMC must have operative indicator in case of breakaway.

44. Required for air refueling.

45. Not required for high alpha flight test.

46. If less than 5 transmitters are available, turn off ALS and restrict the flight envelope. With ALS off, APDMC needs pair of designated AOA sensors - either 1L and 6R or 5L and 2R.

47. Not required if flight test telemetry is available.

48. Only required for over water missions.

49. Both required for takeoff.

50. (a) If MFD-1 is inop, then HUD-1, MFD-2, and MFD-3 must be operable (good). (b) If MFD-2 is inop, then HUD-1, MFD-1, and MFD-3 must be good. (c) If MFD-3 is inop, then HUD-2, MFD-2, and MFD-4 must be good. (d) If MFD-4 is inop, then HUD-2, MFD-2, and MFD-3 must be good

51. (a) If HUD-1 is bad, then MFD-1, 2, & 3 must be operative. If HUD-2 is bad, then MFD-2, 3, & 4 must be operative. (b) Both required for precision landing and/or wind shear testing.

52. Only three required.

53. (a) Required if mission requires HF communication. (b) All corresponding HF equipment (Coupler, Antenna, Converter, etc.) must be operative for each required Receiver/Transmitter.

54. (a) All corresponding VHF equipment (Antenna, Converter, etc.) required for each required Receiver/Trans.

    (b) One required if no UHF operative or if UHF is not available to other communication agencies.

55. Required for air refueling only.

56. Mission specific requirements dictate radios required to be operational.

57. (a) None required if both crew and cordless headsets are operative and no passengers on board. (b) One in flight station and one in cargo compartment required.

58. (a) None required if both crew and cordless headsets operative and no passengers on board. (b) For PAX no three adjacent speakers may be inoperative

59. All primary crew positions must be operative.

60. (a) Minimum crew positions required is four. (b) Oxygen mask microphone must be operative. (c) Pilot and Co-pilot panel required for future air navigation system (FANS) flight plan.

61. (a) Modes 3 and C required for peacetime, Mode 1, 2, and 4 required for wartime. (b) As specified in FAR Part 91, paragraph 91.215.

62. Required if flying a FANS flight plan, otherwise not required.

63. One of two required to be operative. (b) All corresponding equipment must be operative.

64. Only one required, one CNC can control everything for local flights.

65. (a) One VOR/LOC and one glideslope receiver for IMC flying conditions. (b) Two VOR/LOC and two glide slope receivers required for Cat II, not required for VFR approach.

66. (a) One required for approach using DME. (b) FAR Part 91, para 91.205 (E). DME required above 24,000 feet if VOR. NAVAIDS will be required for enroute navigation.

67. Both required only if full navigation system capability required.

68. Required only if flight planned into known or forecast thunderstorm activity.

69. Pilot performing maneuvers must have operative system or operative avionics switching function.

Attachment 26 (Added-AFMC)

NC/C-130E/H/H2/H3 MINIMUM ESSENTIAL SUBSYTEMS LIST

NC/C-130E/H/H2/H3 Minimum Essential Subsystems List (MESL)				BSL	
NO.	WUC	SYSTEM/SUBSYSTEM	FSL	DTE	DTS
1	11000	Airframe	X	X	X
2	11***	Crew Door	X	X	X
3	11***	Crew Door Warning Light	X	X	X
4	11***	Paratroop Door	X	X^1	X
5	11***	Ramp and Ramp Locking System	X	X^2	X
6	11***	Aft Cargo Door and Locking System	X	X^2	X
7	11***	Fuselage	X	X	X
8	11***	Wings and Nacelles	X	X	X
9	11***	Empennage	X	X	X
10	12500	Aft Cargo Compartment	X	X^2	X
11	13000	Landing Gear	X	X	X
12	13***	Landing Gear Position Indicators	X	X	X
13	13***	Landing Gear Warning Light	X	X	X
14	13***	Brakes	X	X	X
15	13***	Wheel Brakes	X	X	X
16	13***	Anti-Skid	X	X	X
17	13***	Parking Brake	X	X	X
18	14000	Flight Controls	X	X	X
19	14***	Control Surface Position Indicator	X	X	X
20	22000	Turboprop Powerplants	X	X	X
21	22***	Torquemeter	X	X	X
22	22***	Tachometer	X	X	X
23	22***	Turbine Inlet Temperature Indicators	X	X	X
24	22***	Fuel Flow Gauges	X	X	X
25	22***	Oil Temperature Gauges	X	X	X
26	22***	Oil Pressure Gauges	X	X	X
27	22***	Oil Quantity Gauges	X	X^3	X
28	22***	Low Oil Quantity Light	X	X^4	X
29	22***	Oil Cooler Flap	X	X^5	X
30	22***	Auxiliary Power Unit	X	X^6	X
31	24000	Gas Turbine Compressor	X		
32	24***	Air Turbine Motor (ATM)	X	X	X
33	24***	Cooling Fan	X	X	X
34	32000	Hydro Propellers	X	X^7	X
35	32***	Synchrophaser	X	X	X
36	41000	Air Conditioning/Pressurization	X	X^8	X
37	41***	AC-Flt Compartment	X	X^8	X

38	41***	Flight Deck Auxiliary Vent Valve	X	X	X
39	41***	Flight Deck Temperature Control System	X	X[9]	X
40	41***	AC-Cargo Compartment	X	X[8]	X
41	41***	Cargo Compartment Auxiliary Vent Valve	X	X	X
42	41***	Cargo Compartment /Temp Control System	X	X[9]	X
43	41***	Under Floor Heat System	X		X
44	41***	Cabin Pressure Controller	X	X[10]	X
45	41***	Emergency Depressurization Switch	X	X	X
46	41***	Bleed Air System	X	X	X
47	41***	Anti-Ice/De-Ice Systems	X	X	X
48	41***	Ice Detection System	X	X[11]	X
49	41***	Pitot Heat System	X	X	X
50	41***	TAS Probe Heat	X	X	X
51	41***	Wing/Empennage Anti-Icing System	X	X[11]	X
52	41***	Engine Inlet Air Duct Anti-Icing Systems	X	X[11]	X
53	41***	Leading Edge Temperature Indicators	X	X	X
54	41***	Wing Leading Edge and Wheel Well Overtemperature Warning Lights	X	X	X
55	41***	Propeller Anti-Icing System	X	X[11]	X
56	41***	Windshield Anti-Icing Systems	X	X[11]	X
57	41***	Radome Anti-Icing System	X	X[12]	X
58	41***	Instruments	X	X	X
59	41***	Cabin Altimeter	X	X[10c]	X
60	41***	Cabin Differential Pressure Indicator	X	X[10c]	X
61	41***	Cabin Rate-of-Climb Indicator	X	X[10c]	X
62	42000	Electrical Power Supply	X	X	X
63	42***	Engine-Driven Generators	X	X	X
64	42***	Bus Switching System (BSS)	X		X
65	42***	Bus Switching Unit (BSU)	X	X[13]	X
66	42***	Transformer/Rectifiers (TR)	X	X[14]	X
67	42***	ATM/APU Generator	X	X[6]	X
68	42***	Generator Out Lights	X	X[15]	X
69	42***	AC Load Meter	X	X[15]	X
70	44000	Navigation Lights	X	X1[6]	X1[6]
71	44***	Landing Lights	X	X[18]	X[18]
72	44***	Taxi Lights	X	X[19]	X[19]
73	44***	Wing Leading Edge Lights	X		
74	44***	Formation Lights	X	X[17]	X[17]
75	44***	Strobe (Anti-Collision) Light System	X	X	X
76	44***	Pedestal/Pilots Side Panel Lights	X	X[20]	X[20]
77	44***	Panel Lights	X	X[20]	X[20]
78	44***	Warning Lights	X	X[20]	X[20]
79	44***	Emergency Exit Lights	X	X	X

80	45000	Hydraulic and Pneumatic Power Supply	X	X	X
81	45***	Engine Driven Hydraulic Pumps	X	X	X
82	45***	Utility/Booster System Engine Pump Pressure Warning Lights	X	X	X
83	45***	Utility System Hydraulic Pressure Indicator	X	X	X
84	45***	Booster System Hydraulic Pressure Indicator	X	X	X
85	45***	Hydraulic Suction Boost Pump	X	X	X
86	45***	Auxiliary Hydraulic Pump	X	X	X
87	45***	Auxiliary Hydraulic Pressure Indicator	X	X	X
88	45***	Rudder Boost Pressure Indicator	X	X[21]	X
89	46000	UARRSI	X		
90	46000	Fuel Tanks	X	X	X
91	46***	SPR Dual Level Control	X	X	X
92	46***	Fuel System Instruments	X	X	X
93	46***	Main Tank Fuel Pumps	X	X	X
94	46***	Main Tank Dump Pumps	X	X	X
95	46***	Auxiliary Tank Fuel Pumps	X		X
96	46***	External Tank Fuel Pumps	X	X[22]	X
97	46***	Main Fuel Quantity Indicators	X	X[23]	X
98	46***	Auxiliary Tank Fuel Quantity Indicators	X		X
99	47000	Oxygen System	X	X[1]	X
100	49000	Miscellaneous Utilities	X	X[1]	
101	49***	Engine Fire/Turbine Overheat Warning Sys	X	X	X
102	49***	Nacelle Overheat Systems	X	X	X
103	49***	GTC/APU Fire Warning System	X	X	X
104	49***	Windshield Wipers	X		X
105	49***	Personnel Warning Bell	X		X
106	51***	Sextant	X		
107	51***	Pitot Static System	X	X	X
108	51***	Turn and Slip Indicating System	X	X	X
109	51***	Attitude Director Indicating System	X	X	X
110	51***	Standby ADI	X	X	X
111	51***	Navigation Instruments	X	X	X
112	51***	TCAS	X	X[25]	X
113	51***	Flight Director System	X	X	X
114	51***	Horizontal Situation Indicators	X	X	X
115	51***	Standby Magnetic Compass	X	X	X
116	51***	EFI Displays	X	X	X
117	51***	BDHI	X		
118	51***	Barometric Altimeters	X	X[24]	X
119	51***	Heading Systems	X	X[25]	X
120	51***	GPWS	X	X[25]	X
121	51***	GCAS	X	X[25]	X

122	51***	Central Air Data Computer	X	X	X
123	51***	Nav Selector Panel	X	X	X
124	51***	Airspeed Indicator	X	X	X
125	51***	Vertical Velocity Indicator	X	X[30]	X
126	51***	NDB	X	X	X
127	52200	N-1 Compass System	X		
128	56A00	Cockpit Voice Recorder	X	X	X
129	56B00	Flight Data Recorder	X	X	X
130	61500	HF	X	X[1]	
131	61600	ANDVT	X		
132	62X00	VHF	X	X[1]	X
133	63M00	UHF	X	X[1]	X
134	63***	#1 UHF Manual Control Head Radio (SCNS Only)	X	X	X
135	64200	Intercom System	X		
136	65000	IFF/SIF	X	X[1]	X
137	66000	Emergency Communications	X	X	X
138	66***	Emergency Locator Transmitter	X	X	X
139	66300	Underwater Acoustic Locator System	X	X	X
140	69210	Radio Direction Finder	X		X
141	69600	KY-58 Secure Voice	X		
142	71C00	VOR	X	X	X
143	71F00	Global Positioning System	X	X	X
144	71GA0	IDCO	X	X[26]	X
145	71GB0	BICU	X	X	X
146	71GEO	RLG INU	X	X	X
147	71J00	Microwave Landing System	X	X[27]	
148	71***	Instrument Landing System	X	X[27]	X
149	71Z00	TACAN (AN/ARN-118)	X	X	X
150	71100	Radio Compass	X	X	X
151	72100	Doppler Velocity Sensor	X	X[27]	X
152	72170	CARA	X	X[25]	X
153	72320	Waveguide Pressurization System	X	X	X
154	72***	Search Radar	X	X[1]	X
155	72***	Radar	X	X[28]	X
156	72***	Weather Radar	X	X[29]	X
157	76A00	Flare/Chaff Dispenser (AN/ALE-40)	X		
158	76J00	Missile Warning (AN/AAR-47)	X		
159	76N00	Flare/Chaff Dispenser (AN/ALE-47)	X		
160	97A00	Fire Extinguisher System	X	X	X
161	91113	Escape Rope	X		X
162	91213	Life Raft	X		X

NOTES:

1. Test dependent. As determined by test director based on mission objectives.

2. Warning light, latching mechanisms, and locking system must be operational for pressurized flight.

3. One oil quantity gauge can be inoperative provided the oil quantity is verified prior to flight and the low oil quantity light is operational.

4. If inoperative, all four oil quantity gauges must be operational.

5. Oil cooler flaps may be inoperative if the flap can be manually positioned to open and fixed and oil temperature can be maintained within normal limits.

6. If the ATM, ATM generator, or APU fails, flight in visual meteorological conditions (VMC) is authorized provided no other electrical malfunctions exist. If the APU generator is inoperative, the generator will be removed and padded prior to operation of the APU.

7. Propeller may be operated with a feather override failure where the override button fails to pop out at full feather, (faulty pressure switch) provided maintenance instructions in the applicable fault isolation manual are followed and no other system is affected.

8. a. Pressurization and both air conditioning systems must be operational for special weapons mission. b. Pressurization and both air conditioning systems are normally essential if passengers are carried. If a system fails, flight to a destination with repair capability may be accomplished. Passengers will be briefed on the possibility that discomfort may be encountered. c. Air Conditioning and pressurization are not required for low-level missions if a reasonable temperature can be maintained.

9. Automatic system may be inoperative provided manual temperature control can be maintained.

10. a. Automatic controller may be inoperative for pressurized flight provided the manual controller is operative. b. May be inoperative for unpressurized flight.

11. Blade de-icing will be operational for flight into known or forecast icing conditions.

12. May be inoperative for flights that do not require radar.

13. The #1 BSU must be operational.

14. One essential TR unit may be inoperative for flight to a repair facility provided no other electrical malfunctions exist.

15. All associated equipment and indicators will be operational for each operative engine-driven generator (i.e., generator control panel, GCU, voltage regulator, generator out/caution light, AC loadmeter, etc)

16. For night operations, the left and right wingtip navigation lights must be operational in addition to one of the white lights on the tail cone.

17. Not required for daylight operations. Two lights per wing will be operational for night formation flights

18. One may be inoperative provided the taxi light on the same side is operational.

19. One may be inoperative provided the landing light on the same side is operational.

20. All edge "peanut" lighting or backlit lighting will be operational for night operations for the following instruments; airspeed, altimeters, VVI/VSI, ADI, and HSI.

21. One may be inoperative.

22. One per tank required if tank contains fuel.

23. One main fuel tank indicator may be inoperative provided: a. Both the tank with the inoperative indicator and its symmetrical tank quantity are verified by use of a fuel tank dipstick. b. At enroute stops when engines are shut down, the tank with the inoperative indicator and the symmetrically opposite tank will be dip checked. c. Crossfeed operation will begin when the symmetrically opposite quantity indicator has decreased to 1,500 lbs (inboards) and 2,500 lbs (outboards). d. Engine-out training using the engine corresponding to the inoperative indicator or its symmetrical opposite will not be conducted during tank to engine operation. e. Flights consisting of multiple stops when the mission profile does not allow dipping of tanks will terminate with a minimum of 8,000 lbs calculated main tank fuel.

24. Both pilot's altimeters must be operational.

25. Always required if carrying passengers.

26. Two are required.

27. If installed, one must be operational.

28. Required if thunderstorms or hazardous conditions that can be detected by airborne radar are forecast or exist along route of flight.

29. If equipped with two radars then not required, pilots radar is all that is required for flight if known or forecast thunderstorms are expected along route of flight or at night.

30. Vertical velocity indication may be inoperative on one indicator except for flights in RVSM airspace

Attachment 27 (Added-AFMC)

NKC/KC/C-135B/C/E/R MINIMUM ESSENTIAL SUBSYTEMS LIST

NKC/KC/C-135B/C/E/R Minimum Essential Subsystems List (MESL)				BSL	
NO.	WUC	SYSTEM/SUBSYSTEM	FSL	DTE	DTS
1	11000	Airframe	X	X	X
2	12000	Cockpit and Fuselage Compartments	X	X	X
3	13000	Landing Gear	X	X	X
4	13***	Landing Gear Position Indicators	X	X	X
5	13***	Landing Gear Lock Alignment Stripes	X	X	X
6	13***	Wheel Brakes	X	X	X
7	13***	Anti-Skid System	X	X	X
8	13***	Parking Brake	X	X	X
9	13***	Landing Gear Handle Warning Light	X	X	X
10	14000	Flight Controls	X	X	X
11	14***	Warning Horn and Cutout Switch	X	X	X
12	14***	Stabilizer Trim Control Switches	X	X[6]	X
13	14***	Electric Trim Motor	X	X	X
14	14***	Power Rudder System	X	X	X
15	14***	Flap Position Indicators	X	X[7]	X
16	14***	Spoiler Systems	X	X	X
17	14***	Yaw Damper	X	X[8]	X
18	14***	Yaw Damper Off Light	X		
19	14***	EFAS	X	X	X
20	14***	SYD	X	X	X
21	14***	Emergency System	X	X	X
22	14***	Disengage Button	X		
23	23000	Turbofan Propulsion System	X	X	X
24	23***	Thrust Reversers	X		
25	23***	Thrust Reverser Lights	X		X
26	23***	Engine Ignition (A/B)	X	X[1]	X
27	23***	EPR Gauges	X	X	X
28	23***	Tachometer (N2)	X	X	X
29	23***	EGT Gauges	X	X	X
30	23***	Engine Fuel Flow Meter	X	X[2]	X
31	23***	Oil Pressure, Temperature, and Quantity Gauges	X	X	X
32	23***	Engine Low Oil Pressure Warning Lights	X	X	X
33	23***	Engine Oil Filter Warning Lights	X	X	X
34	23***	Engine Fire Detector System (All Engines)	X	X	X
35	23***	Engine Fire and Overheat Detection and Extinguishing	X	X	X
36	23***	PMC	X	X[3]	X[3]
37	23***	Auxiliary Power Unit (APU)	X	4	X

38	23***	Anti-Ice System	X	X	X
39	23***	N1 Indicator Gauge	X	X	X
40	23***	N2 Tach Indicator	X	X	X
41	41000	Air Conditioning, Pressurization, and Bleed Air System	X	X	X
42	41***	Air Conditioning Temperature Control Sys	X	X[10]	X
43	41***	Cabin Pressure Control	X	X[9]	X
44	41***	Cabin Pressure Warning Light	X		
45	41***	Cabin Altitude Gauge	X	X	X
46	41***	Bleed Valves	X	X[11]	X
47	41***	Bleed Air System Caution Lights	X	X	X
48	41***	Vapor Cycle Units & Control	X		
49	41***	Wing Anti-Ice	X		
50	41***	Windshield Wiper System	X		
51	41***	Window Anti-Ice System	X	X	X
52	41***	Boom Operator Heated Window	X	20	X
53	41***	Q Inlet Heat	X	X	X
54	42000	Electrical System	X	X	X
55	42***	AC Generator	X	21	X
56	42***	AC Generator Bus	X	X	X
57	42***	Copilot Instrument Power	X		
58	42***	Bus Tie Breaker Light	X	X	X
59	42***	Bus Subsystem Interface Unit (BSIU)	X	X	X
60	42***	Generator Breaker Circuit Open Light	X	X	X
61	42***	Generator Failure Light	X	X	X
62	42***	Generator Drive Oil Temperature Rise Gauge	X	X	X
63	42***	Generator Drive Oil Pressure Warning Light	X	X	X
64	42***	Generator Auto Parallel	X		
65	42***	Generator Power Meter KW/KVAR	X	X	X
66	42***	Synchronizing Lights	X	X	X
67	42***	Battery Charging Ammeter	X	X	X
68	42***	Transformer Rectifiers	X	X	X
69	42***	DC Load Meter	X	X	X
70	42***	DC Power Selector Ammeter Voltmeter Switch	X	X	X
71	42***	Selector Paralleling Voltmeter Frequency Meter & Synchronizing Switch	X	X	X
72	42***	Battery	X	X	X
73	42***	Bus Tie Breaker Circuit Open Light	X	X	X
74	42***	Generator Control Breaker Circuit Open Caution Light	X	X	X
75	42***	IDG Fail Caution Light	X	X	X
76	42***	IDG Disconnect Light	X	X	X
77	42***	Generator Control Unit	X	X	X
78	42***	Battery Load Meter	X	X	X
79	42***	AC Volt Meter	X	X	X

80	42***	AC Ammeter	X	X	X
81	42***	DC Volt Meter	X	X	X
82	42***	Frequency Meter	X	X	X
83	42***	Switched DC Bus	X	X	X
84	44000	Lights, Exterior	X		X
85	44***	Position Lights	X	X[23]	X
86	44***	Strobe Lights	X	X[24]	X
87	44***	Landing Lights	X	X[24]	X
88	44***	Taxi Lights	X	X[25]	X
89	44***	Light, Interior	X	X	X
90	44***	Door Warning Lights	X	26	X
91	44***	Overhead Panel Caution Light	X		
92	45000	Hydraulic Systems	X	X	X
93	45***	Hydraulic Pumps	X	X	X
94	45***	Auxiliary Pumps	X	X[5]	X
95	45***	Hydraulic Quantity Gauge	X	X	X
96	45***	Hydraulic Systems Pressure Gauges	X	X	X
97	45***	Copilot Instrument Power Hydraulic Motor	X	X	X
98	45***	Hydraulic Pump Inop Caution Lights	X	X	X
99	46000	Fuel System	X	X	X
100	46***	Boost Pumps	X	X	X
101	46***	Override Pumps	X	X	X
102	46***	Tank to Engine Manifold Valves	X	X[12]	X
103	46***	Air Refueling	X		X
104	46***	Air Refueling Manifold to Engine Manifold Valve	X	X	X
105	46***	Center Wing to Forward Body Tank (Drain) Valves	X		X
106	46***	Reserve Tank (Drain) Valves	X	13	X
107	46***	Upper Deck (Drain) Valve	X		
108	46***	Fuel Dump	X	X	X
109	46***	Wing Aft Body Tank Valves	X	X	X
110	46***	Air Refueling Line Valve	X		
111	46***	Air Refueling Pumps	X	14	X
112	46***	Air Refueling Pump Automatic Shutoff Sys	X		
113	46***	Boom Sighting Door	X	X	X
114	46***	Boom Azimuth Indicator	X	X	X
115	46***	Boom Elevation Indicator	X	X	X
116	46***	Boom Signal Coil	X	X	X
117	46***	Boom Signal Amplifier	X		X
118	46***	Air Refueling Flood Light	X		X
119	46***	Air Refueling Nozzle Light	X		
120	46***	Engine Manifold Fuel Low Pressure Warning Lights	X	X	X
121	46***	Fuel Temperature Gauge	X		
122	46***	Total Fuel Quantity	X		X

123	46***	Offload Fuel Flow Rate and Totalizer Gauge (w/o TCTO1131)	X		
124	46***	Main Tanks	X	X	X
125	46***	Center Wing Tank	X	X	X
126	46***	Reserve Tank	X		
127	46***	Forward Body Tank	X	X	X
128	46***	Aft Body Tank	X	X	X
129	46***	Upper Deck Tank	X		
130	46***	IFMP	X	X	X
131	46***	CG Indicator (w/TCTO 1131)	X		
132	46***	Fuel Transfer Quantity Display	X		
133	46***	Fuel Transfer Rate Display (w/TCTO 1131)	X		
134	47000	Oxygen System	X	X[17]	X
135	47***	Portable Oxygen Bottles	X	18	X
136	47***	Oxygen Regulators	X	19	X
137	49***	Fire Detection & Control	X	X	X
138	51000	Instruments	X	X	X
139	51***	Stall Warning System	X	X	X
140	51***	Digital Flight Recorder	X	X	X
141	51***	MACH Indicators	X		X
142	51***	True Airspeed Indicator	X		X
143	51***	Indicated Airspeed Indicators	X	X	X
144	51***	Vertical Velocity Indicators	X		X
145	51***	Barometric Altimeters	X	16	X
146	51***	Radio Altimeters	X		X
147	51***	Pitot Static and Heat System	X	X	X
148	51***	Outside Air Temperature Gauge	X		
149	51***	Total Air Temp System	X	X	
150	51***	Comparator Warning System	X		
151	51***	Angle of Attack	X		X
152	51***	Angle of Attack Transmitter Anti-Ice	X		X
153	51***	Accelerometer	X		
154	51***	Attitude and Direction Indicator	X	X	X
155	51***	Flight Director/Rotation Go-Around System (FD/RGA)	X		X
156	51***	Ground Proximity Warning System	X	X	X
157	51***	MFDs	X	X[27]	X
158	51***	MFD Control Panel	X	X[28]	X
159	52000	Autopilot	X		X
160	52***	Disengage Button	X		
161	52***	Indicator, 3 Axis Trim	X	X	
162	52***	Yaw Control and Yaw Damper System	X	X	X
163	57000	Inertial Navigation System	X	X	X
164	57***	Data System	X	X	X
165	57***	Data Loader (DLDR)	X	X	X

166	57***	Magnetic Compass	X	15	X
167	57***	N-1 Compass	X	X	X
168	57***	J-4 Compass	X	X	X
169	57***	DNS	X		
170	57***	Instrument Landing System	X		
171	57***	RMI	X	15	X
172	57***	APN-59 Radar	X		
173	57***	Repeater Scope	X		
174	57***	APN-69/APN-134 Beacon	X		
175	57***	APN-218	X		
176	57***	ASQ-15 Radar Pressure	X		
177	57***	Electronic Cabinet Cooling	X	X	X
178	57***	Electronic Cabinet Cooling Overheat Light	X		
179	57***	Sextant	X		
180	57***	CDU-900B	X	X	X
181	57***	INS CDU Warning Light	X	X	X
182	57***	DNS CDU Warning Light	X		
183	57***	HSI	X		
184	62000	VHF Communications	X	22	X
185	63000	UHF Communications	X	22	X
186	63***	UHF/VHF/HF Radios	X	22	X
187	64000	Intercom Group/Interphone System	X	X	X
188	64***	Comm Bus System Interface Unit (CBSIU)	X	X	X
189	65000	IFF/SIF System	X		
190	66000	Cockpit Voice Recorder System	X	X	X
191	66B00	Flight Data Recorder	X	X	X
192	68000	Digital Air Data Recorder	X	X	X
193	71000	Radio Navigation (VOR/TACAN)	X	X	X
194	72000	Low Range Radio Altimeter	X		
195	72***	Color Weather Radar System	X		
196	72***	WXR-70OX Radar	X		
197	72***	WCP-701 Radar Control Panel	X		
198	72***	Predictive Wind Shear PWS	X		
199	72***	Global Positioning System	X	X	X
200	72***	Embedded GPS/INS (EGI)	X	X	X
201	72***	GPS	X	29	X
202	72***	INU -1 (EGI)	X	X	X
203	72***	INU-2 (Carousel IV)	X	X	X
204	72***	Radio Transponder System	X		
205	74***	Pacer Crag Associated Equipment	X		
206	74***	IFF/SIF System	X		
207	74***	Vertical Gyro (SBU-23)	X	X	X
208	74***	Standby ADI	X	X	X

209	74***	Synchro Repeaters	X	X	X
210	74***	1553 Data Bus	X	X	X
211	74***	TCAS	X	X	X
212	74***	TCAS VSIs	X	X	X
213	74***	Altitude Alerters	X		
214	91000	Emergency Equipment	X	X	X
215	91***	Emergency Locator Transponder	X	X	X
216	91***	Enhanced Ground Proximity Warning System	X	30	X
217	91***	Emergency Alarm Horn	X	X	X
218	91***	Fire Extinguishers	X		
219	91***	Escape Ropes	X		X
220	96000	Personnel and Miscellaneous Equipment	X		X

NOTES:

1. One igniter per engine must be operable.

2. One may be inoperative provided all other indicators for affected engine are operating normally.

3. (1) Refer to Aircraft Flight Manual, Section 1. (2) Simulated 3-engine approaches and touch and go landings are not authorized with PMC inoperative

4. Ensure engine start capability exists at recovery site.

5. Left auxiliary pump must be operative.

6. The trim switch must operate for the pilot flying during critical phases of flight.

7. One may be inoperative on either flap gauge provided: (1) Flaps operate normally, (2) Verification of flap position can be made prior to take off and landing.

8. Must operate for long range cruise above FL 250.

9. (1) Automatic or manual mode must be operable. (2) Exception: Not required for unpressurized flight, see AFI 11-202, Volume 3 for requirements

10. Automatic or manual mode must be operable.

11. (1) One may be inoperative on takeoff, but "R" model must have repair capability at next destination.

 (2) One may inoperative, but on "E" model the failure must fail to the closed position. Consider pressurization and temperature for sustained high altitude cruise.

12. One may be inoperative, but must fail to open position. Pull circuit breaker.

13. Valves not required to be operative if fuel is not needed for flight, and valves are verified closed.

14. (1) All must operate for extended over-water operations. (2) All must operate for gross weights which do not permit an immediate landing under normal flight manual landing parameters

15. Only required if carrying passengers/troops.

16. Navigator's altimeter may be inoperative with no associated pitot static problems.

17. Primary system must be operable, minimum pressure 325 p.s.i.

18. One per primary crew member.

19. Each primary crewmember must have access to an operable regulator during flight.

20. Required for Air Refueling Missions.

21. (1) All must be operative except to avoid delays from airfields where maintenance is not adequate. (2) One time takeoff and flight is permitted with a disconnected generator drive to reach a field where repairs can be made. (3) With an inoperative generator (a) Do not use mission power without first coordinating electrical loads with the mission and flight crew. (b) Total flight and mission electrical loads shall not be allowed to exceed 50% of rated output for the number of generators operating. (c) All remaining generators must be paralleled and supply power to all generator buses.

22. As mission dictates. Comm 1 must operate.

23. Both wing tip lights and one tail light must be operative.

24. At least one must operate.

25. One taxi or terrain light must be operative for night operations.

26. Crew entry door and cargo door must be visually verified secured.

27. The center MFD and one of the pilot's front MFDs can be inoperative, provided PFD mode can be displayed on the remaining pilot's front MFD. MFD 2B must be operational for all flights.

28. Both pilot's MFD CPs must be operational.

29. Initial position and date/time must be manually inserted into EGI.

30. Not required for Test missions. Required 3P or 4P when carrying passengers.

Attachment 28 (Added-AFMC)

E-8 MINIMUM ESSENTIAL SUBSYTEMS LIST

E-8 Minimum Essential Subsystems List (MESL)				BSL	
NO.	WUC	SYSTEM/SUBSYSTEM	FSL	DTE	DTS
1	11000	Airframe	X	X	X
2	12000	Cockpit and Fuselage Compartments	X	X	X
3	13000	Landing Gear	X	X	X
4	14000	Flight Controls	X	X	X
5	14M00	Emergency System	X	X	X
6	23000	Turbofan Propulsion System JT3D	X	X	X
7	23LB0	Anti-Ice System	X	X	X
8	23MAC	N1 Tach Indicator	X	X[1]	X[1]
9	23MAD	N2 Tach Indicator	X	X	X
10	23MCB	EPR Indicator	X	X[2]	X[2]
11	24000	Auxiliary Power Plant	X		
12	41000	Air Conditioning, Pressurization, and Surface Ice Control	X	X	X
13	41B00	Air Source Control System	X	X	X
14	41E00	Pressurization Waveguide	X	X	X
15	41F00	Cabin Pressure	X	X	X
16	41FK0	Indicator, Differential Pressure Dual Altimeter	X		
17	41P00	Air Cycle Machine and Control	X	X[3]	X
18	41Q00	Vapor Cycle & Control	X	X	X
19	41S00	Antenna Moisture Control	X		
20	41T00	Liquid Cooling System	X	X	X
21	42000	Electrical Power Supply	X	X	X
22	422A0	Integrated Drive Gearbox	X	X	X
23	42300	DC Power	X	X	X
24	423G0	Transformer-Rectifier, 75 Amp	X	X[4]	X[4]
25	44100	Light, Exterior	X	X[5]	X[5]
26	44200	Light, Interior	X	X[5]	X[5]
27	442EQ	Visual Display Warning Unit	X	X	X
28	442H0	Warning Lights	X	X[6]	X[6]
29	45000	Hydraulic & Pneumatic Power Supply	X	X	X
30	45A00	Utility Hydraulic	X	X[7]	X[7]
31	43B00	Auxiliary Hydraulic	X	X	X
32	46000	Fuel System	X	X	X
33	462F0	Boost Pump	X	X	X
34	462H0	Override Pumps	X	X	X
35	462S0	In-flight Refueling	X	X[8]	X[8]
36	47000	Oxygen System	X	X	X

37	49100	Fire Detection & Control	X	X	X
38	49400	Personnel Warning System	X	X	X
39	51000	Instruments	X	X	X
40	51A00	Stall Warning System	X	X	X
41	51B00	Digital Flight Recorder	X	X[9]	X[9]
42	51C00	Central (MACH) Warning System	X	X	X
43	51D00	Pitot Static System	X	X	X
44	51E00	Total Air Temp System	X	X	X
45	51F00	Air Data System	X	X	X
46	51G00	Attitude and Direction	X	X	X
47	51H00	Attitude and Heading Reference System (AHRS)	X	X	X
48	51J00	Flight Director System	X	X	X
49	51K00	Ground Proximity Warning System	X	X	X
50	52000	Autopilot	X	X	X
51	52DD0	Indicator, 3 Axis Trim	X	X[10]	X
52	52E00	Yaw Control and Yaw Damper System	X	X	X
53	52H00	Mach Trim System	X	X	X
54	57A00	Inertial Navigation System	X	X	X
55	57C00	Data System	X	X	X
56	57E00	Bus System Interface System	X	X[11]	X
57	61B00	HF Communications	X	X	X
58	62B00	VHF Communications	X	X[12]	X[12]
59	63B00	UHF Communications	X	X[13]	X
60	64C00	Intercom Group	X	X	X
61	64CA0	Intercommunication Station (Crew Terminal)	X	X[14]	X
62	64CC0	Intercommunication Station (FSU)	X	X[15]	X
63	64CP0	Comm Bus System Interface Unit (CBSIU)	X	X[11]	X
64	65A00	IFF System	X	X[16]	X[16]
65	66A00	Voice Recorder System	X	X[17]	X[17]
66	69A00	Air Data Terminal Group (SCDL)	X	X	X
67	69B00	JTIDS Radio Set	X	X[18]	X
68	71000	Radio Navigation (VOR/TACAN)	X	X[19]	X[19]
69	71B00	Marker Beacon	X		
70	71C00	ADF System	X		
71	72A00	Low Range Radio Altimeter	X		
72	72B00	Weather Radar System	X	X[20]	X
73	72C00	Global Positioning System	X	X	X
74	72D00	Radio Transponder System	X		X
75	81A00	Antenna Assembly	X	X	X
76	81AA0	Shifter, Phase	X	X[21]	X
77	81AB0	Channel Assy, Receiver	X	X	X
78	81AE0	CCA, Post Regulator	X	X	X
79	81AF0	CCA, Phase Shifter Interface	X	X	X

80	81AQ0	Inertial Measurement Unit	X	X	X
81	81CA0	Amplifier, Radio Frequency (HPC)	X	X[22]	X
82	81CC0	Amplifier, Radio Frequency (XMTR)	X	X[22]	X
83	81CE0	Amplifier-Oscillator (Exciter)	X	X	X
84	81CF0	Amplifier-Modulator (ASE)	X		
85	81CH0	Converter, Analog to Digital (Receiver)	X	X[23]	X
86	81CK0	Converter, Signal Data (PCU)	X	X	X
87	81CL0	Converter, Signal Data (SPP)	X	X	X
88	81CM0	Control, Radar Set (RCU)	X	X	X
89	81CP0	Converter, Signal Processor (PSP)	X	X[24]	X
90	81CQ0	Converter, Data Processor (IMG)	X	X	X
91	81CR0	Radar Bus Couplers & Digital Data Couplers	X	X	X
92	81CS0	Waveguides, Radar	X	X	X
93	82AB0	Computer, Digital (GPC)	X	X[25]	X
94	82AC0	Computer, Digital (SM&C)	X	X[11]	X
95	82AE0	Converter, Signal Data (GPC Expansion)	X	X[25]	X
96	82AF0	Converter, Signal Data (SM&C Expansion)	X	X[11]	X
97	82AH0	Recorder-Reproducer Set, Militarized Disk	X	X[24]	X
98	82AHN	Removable, Transportable Memory Module	X	X[26]	X
99	82AK0	Junction Box, System Test (STP Box)	X	X	X
100	82AL0	Junction Box, Power Interlock (PIC Box)	X	X	X
101	82AN0	Control Panel, Prime Mission Equipment	X	X	X
102	82AT0	Box Assy, SM&C Junction	X	X	X
103	82AW0	Junction Box, Serial Data (SDUSU)	X	X	X
104	82AZ0	Couplers , Data processing and Digital Data	X	X	X
105	82C00	Data Display Subsystem (O&C)	X	X[27]	X
106	82CA0	Data Display Unit	X	X[27]	X
107	82CD0	Operator Workstation Imbedded Disk	X	X[27]	X
108	82CF0	Processor, Digital Display (ADDP)	X	X[27]	X
109	82CH0	Keyboard, Data Entry	X	X[27]	X
110	82CJ0	Removable, Transportable Memory Module	X	X[27]	X
111	91000	Emergency Equipment	X	X	X
112	96000	Personnel and Miscellaneous Equipment	X	X	X

NOTES:

1. PMC when inoperative if associated engine EPR indicator is operable.

2. PMC when inoperative if associated engine N1 indicator is operable.

3. PMC if manual control is operational.

4. PMC if No 2 TR and Essential buses are operational.

5. As directed by AFI 11-202 Vol 3.

6. PMC if PA system and flight deck and mission interphone systems are operable.

7. PMC if corresponding pressure gauge(s) operable.

8. PMC if 1 set of ready, contact, and disconnect lights is operable.

9. PMC if CVR (Cockpit Voice Recorder) is operational.

10. PMC if the rudder axis is operational

11. PMC if one operational.

12. PMC if Flight Deck VHF is operable.

13. PMC if eight UHF mission radios and one Flight Deck radio are operational.

14. PMC if three CMTs are inoperative.

15. PMC if one FSU is operational.

16. PMC if one system is operable.

17. PMC if FDR (Flight Data Recorder) is operational.

18. PMC if one system is operable.

19. PMC if one TACAN or VOR/ILS is operable at each pilot's station.

20. PMC if Navigator's is operable.

21. PMC if two inoperable.

22. PMC if failure allows transmitter configuration to 2.

23. PMC if one operable (must be in #1 position).

24. PMC if three operable.

25. PMC if two operable.

26. PMC if two RTMMs operational (System disk and SDB disk).

27. Must have a minimum of 14 O&C workstations. The NOWS station must be operational.

Attachment 29 (Added-AFMC)

B-1B MINIMUM ESSENTIAL SUBSYTEMS LIST

B-1B Minimum Essential Subsystems List (MESL)			BSL		
NO.	WUC	SYSTEM/SUBSYSTEM	FSL	DTE	DTS
1	11000	Airframe	X	X	X
2	12000	Flash Blindness Protection	X		
3	13000	Landing Gear System	X	X	X
4	14000	Flight Control System	X	X	X
5	14HA*	Wing Sweep System	X	X	X
6	16000	Ejection System	X	X	X
7	19000	Engine Starting 1, 2, 3, 4	X	X	X
8	23000	Power Plant	X	X	X
9	24000	APU	X	X^1	X^1
10	27000	Accessory Drive Gearboxes (ADGs)	X	X	X
11	39C**	Pitot Static	X	X	X
12	39D**	Window and Windshield Anti-ice Defog	X		
13	39F**	Windshield Rain Repel and Alt Anti-ice Defog	X	X^2	X^2
14	41000	Air Conditioning and Pressurization	X	X	X
15	42000	Electric Power Supply	X	X	X
16	43A**	EMUX Primary/Secondary Data Link	X	X	X
17	43B**	Terminals	X	X	X
18	43C**	CITS Interface	X	X	X
19	44AB*	Panel and Instrument Lighting	X	X	X
20	44AC*	Annunciator Lighting	X	X	X
21	44BC*	Aft Station Annunciatior Lighting	X	X	X
22	44D**	Exterior Lighting	X	X^3	X^3
23	45000	Hydraulic System	X	X	X
24	46000	Fuel System	X	X	X
25	47000	Oxygen System	X	X	X
26	48C**	Recorder System (not instrumentation)	X	X^8	X
27	48E**	Central Warning System	X	X	X
28	49000	Fire Protection System	X	X	X
29	51000	Electrical/Electronic Panels & Multipurpose Components	X	X	X
30	52A**	Automatic Flight Control System (AFCS)	X	X	X
31	52BA*	Structural Mode Control System (SMCS)	X	X^4	X^4
32	55000	Central Integrated Test System (CITS)	X	X	X
33	59AA*	HF Radio	X		
34	59B**	VHF and UHF Communications	X	X^5	X^5
35	59EA*	Interphone System	X	X	X
36	73A**	Navigation, Flight Environment	X	X	X

37	73B**	Navigation, Attitude and Direction	X	X	X
38	73C**	Navigation, Landing and Taxi Aids	X	X	X
39	73DA*	Nav, Independent Position Determination	X	X	X
40	73DB*	Navigation, Doppler Radar	X	X	X
41	73DC*	Navigation, Offensive Radar (ORS)	X	X	X
42	73E**	Nav, Dependent Position Determination	X	X^6	X^6
43	73FE*	Avionics Control Unit Complex	X	X^7	X^7
44	73FH*	Navigation, Multi-function Displays	X	X	X
45	73W**	Global Positioning System	X	X	X
46	75000	Weapons System	X	X^8	X^8
47	76000	ECM Systems (76AAJ,AB,AC, AD,AE,AJ,C,D,G,H)	X	X^9	X^9
48	97000	Explosive Devices and Components	X	X	X
49		Special Instrumentation (SI)		X^{10}	

NOTES:

1. One fully operational APU required.

2. Must have left and right windshield defog capability.

3. As required by AFI 11-202V3.

4. Required for test/training missions with low level flight (Terrain following or Visual contour).

5. Need one operable UHF or VHF radio, may require both for test mission.

6. Must have IFF.

7. Block D and prior: Must have 3 of 4 ACUs (CDACU, GNACU, WDACU), one of two FTACUs, and one of two RDTs operational. Block E: Must have both CACUs operational, one of two FTACUs, and one of two RDTs operational.

8. Required for specific weapons test/training missions

9. Required for specific ECM test/training missions

10. Special instrumentation is test specific

Attachment 30 (Added-AFMC)

B-2A MINIMUM ESSENTIAL SUBSYTEMS LIST

B-2A Minimum Essential Subsystems List (MESL)				BSL	
NO.	WUC	SYSTEM/SUBSYSTEM	FSL	DTE	DTS
1	11000	Airframe	X	X	X
2	11***	Low Observables	X	X^1	
3	12000	Cockpit and Fuselage Compartments	X	X	X
4	13000	Landing Gear System	X	X	X
5	14000	Flight Control System	X	X	X
6	16000	Ejection System	X	X	X
7	23000	Propulsion Systems	X	X	X
8	23PB*	Aft Tailpipe Assembly	X	X	X
9	24000	Auxiliary Power Unit System	X	X^2	X^2
10	24M**	Airframe Mounted Accessory Drive (AMAD)	X	X	X
11	41000	Air Conditioning and Pressurization	X	X	X
12	42000	Electric Power Supply	X	X	X
13	42HC*	PLTZ	X		
14	44A**	Crew Compartment Lights	X	X^3	X^3
15	44D**	Exterior Lighting	X	X^4	X^4
16	45000	Hydraulic System	X	X	X
17	46000	Fuel System	X	X	X
18	46Q**	Fuel Measurement/Management System	X	X	X
19	47000	Oxygen System	X	X	X
20	49000	Miscellaneous Utilities (Fire Protection System etc..)	X	X	X
21	51000	Instruments	X	X^4	X^4
22	51A**	Controls and Displays	X	X^5	X^5
23	51C**	Warnings, Cautions, and Advisory System (WCA)	X	X	X
24	52000	Flight Management	X	X	X
25	55000	Malfunction Analysis and Recording Equip	X	X	X
26	61A**	High Frequency Radio	X		
27	63A**	VHF and UHF Systems	X	X^6	X^6
28	64A**	Interphone System	X	X	X
29	68A**	AFSATCOM	X	X^7	
30	71A**	Instrument Landing System (ILS)	X	X	X
31	71B**	Identification Friend or Foe (IFF)	X	X	X
32	71C**	Tactical Air Navigation System (TACAN)	X	X	X
33	71D**	KU-Band	X	X^7	
34	71E**	X-Band	X	X^7	
35	72A**	Radar Altimeter Subsystem	X	X	X
36	72H**	Radar Set	X	X^7	

37	73A**	AINS	X	X^8	X^8
38	73B**	Inertial Navigation System (INS)	X	X^8	X^8
39	73D**	Global Positioning System (GPS)	X	X	X
40	75000	Weapons Delivery	X	X^7	X^7
41	76000	Defensive Management System (ZSR-63/ZSR-61)	X	X^7	X^7
42	97000	Explosive Devices and Components	X	X	X
43		Special Instrumentation (SI)	X	X^9	

NOTES:

1. Required for LO specific testing.

2. One operable APU required.

3. Cockpit utility lights not required.

4. As required by AFI 11-202V3.

5. Three (3) operational MDUs per crew position.

6. Need one operable UHF or VHF radio, may require both for test mission. (ARC-164 radio must be operational if installed)

7. May be required by specific test mission.

8. Either AINS or INS must be operational.

9. Special instrumentation is test mission specific.

Attachment 31 (Added-AFMC)

B-52H MINIMUM ESSENTIAL SUBSYTEMS LIST

B-52H Minimum Essential Subsystems List (MESL)				BSL	
NO.	WUC	SYSTEM/SUBSYSTEM	FSL	DTE	DTS
1	11***	Airframe	X	X	X
2	12A/B***	Ejection System	X	X	X
3	12D***	Control Stowage System	X	X	X
4	12F/H/J***	Relief Station/Equipment System/ANC Crew Seat	X		
5	12G***	Aisle Curtains	X		
6	12GA/K***	Thermal Curtains/PLTZ	X		
7	13***	Landing Gear System	X	X	X
8	14***	Flight Control System	X	X	X
9	23***	Turbojet Powerplant	X	X	X
10	24***	Starter Cartridge/Pneumatic	X	X	X
11	41***	Air Conditioning, Pressurization, Surface Ice Control	X	X	X
12	42***	Electrical Power Supply	X	X	X
13	44A***	Aircraft Lighting	X	X[1]	X[1]
14	45***	Hydraulic System/Pneumatic System	X	X	X
15	46***	Fuel System	X	X	X
16	47***	Oxygen System	X	X	X
17	49 B/D***	Miscellaneous Utilities	X	X	X
18	49 F***	EVS Window Wash	X		
19	51A***	Flight Instruments	X	X	X
20	51B***	Fuel Quantity	X	X	X
21	51C***	Miscellaneous Instruments	X	X	X
22	51D***	Pitot Static Systems	X	X	X
23	51E***	Engine Instruments	X	X	X
24	52***	Autopilot	X	X	X
25	60A***	MRT	X	X[2]	
26	61***	HF Radio	X		
27	62***	VHF Communications	X	X[3]	X[3]
28	63***	UHF Communications	X	X[3]	X[3]
29	64***	Intercommunication System	X	X	X
30	65***	Identification Friend or Foe	X	X	X
31	69***	Miscellaneous Communications (KY-58)	X	X[2]	X
32	71***	Radio Navigation	X	X	X
33	71G***	HSI/ADI	X	X	X
34	72D***	Radar Altimeter	X	X	X
35	72E***	Radar Beacon System	X	X[2]	X
36	73A***	Strategic Radar	X	X	X

37	73F***	AHRS	X	X	X
38	73G/K/L***	Bomb Nav Misc. Computers/Control and Display	X	X^2	X^2
39	73M***	Doppler Radar	X	X	X
40	73N***	Air Data Sensors	X	X	X
41	73P***	INS (RLG)	X	X	X
42	73Q***	Bomb Nav Digital Data Set	X	X^2	X^2
43	74***	Fire Control System	X	X	X
44	75***	Weapons Delivery System	X	X^2	X^2
45	76***	ECM Equipment (76J/M/N/P/R/T/W/Y)	X	X^2	X^2
46	77D/E***	Electro-Optical Viewing System (STV or FLIR)	X	X^2	X^2
47	77H***	EVS Airspeed Transducer	X	X^2	X^2
48	77J/L***	Data Presentation Group/AVTR	X	X^2	X^2
49	79***	Global Positioning System	X	X	X
50	93***	Drag Chute System	X	X	X
51	95***	Airborne Cooperational	X		
52	97***	Explosive Devices and Components	X	X	X
53		Special Instrumentation System	X	X^4	
54		Analog Data Recorder		X^4	
55		Digital Data Recorder (MARS 2/2E)		X^4	
56		Telemetry System		X^4	
57		IRIG Time Set		X^4	
58		Flight Test Video Recorder		X^4	
59		TSPI (ARDS, GAINR)		X^4	

NOTES:

1. As required by AFI 11-202, Vol 3.

2. Test dependent. As determined by test director based on mission objectives.

3. Must have an operational UHF or VHF radio. May require both for test mission.

4. Special instrumentation is Development, Test, and Evaluation, and test support specific.